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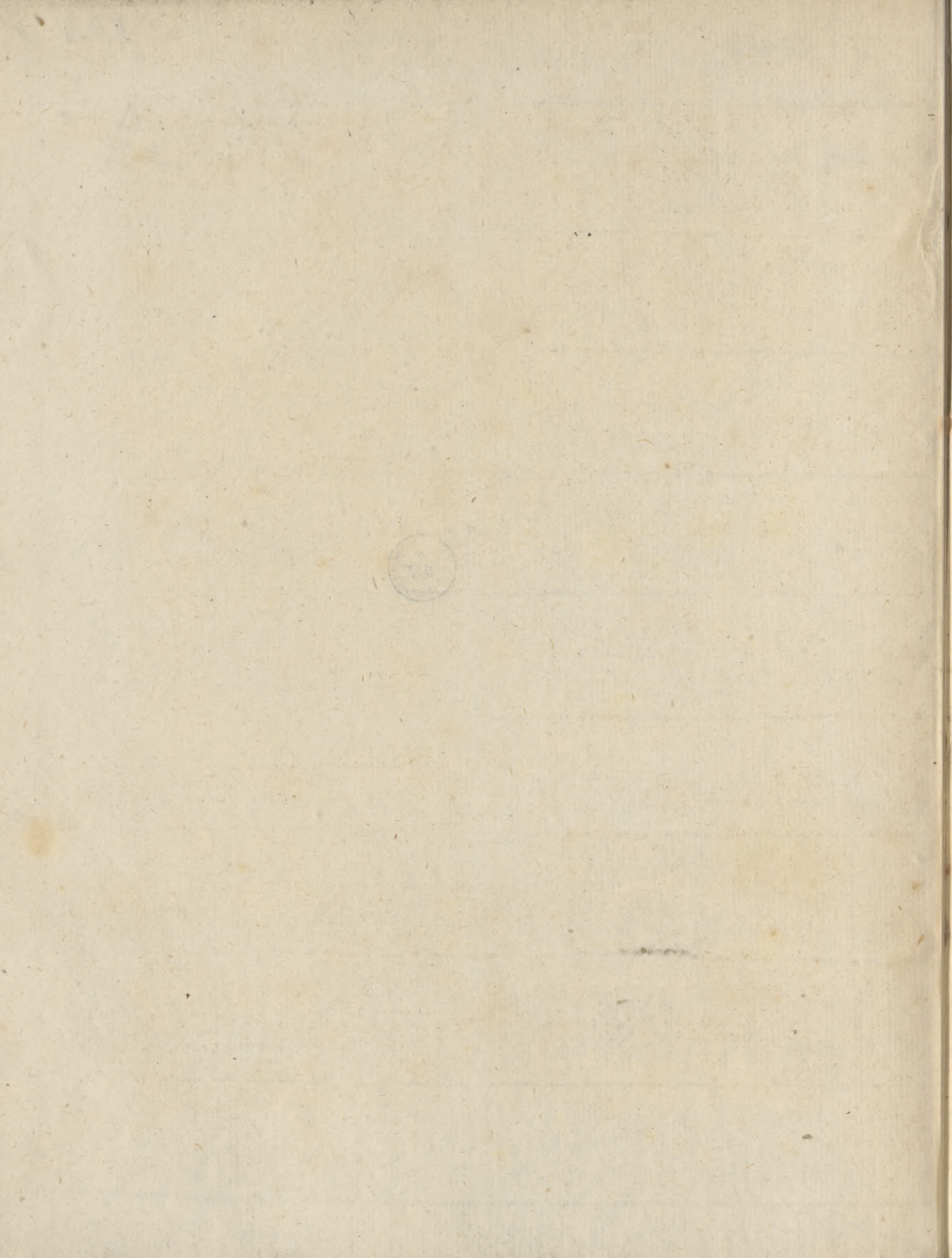
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Maho  
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Mahomet.

siderable time, and supply them with food when no ripe fruit is to be had. When therefore they see a great show of new fruit on the trees, they strip them all at once of their former crop, of which they make mahie. This *fuccedaneum* for ripe bread-fruit is thus made. They gather the fruit before it be perfectly ripe, and laying it in heaps, cover it closely with leaves. In this state it ferments, and becomes disagreeably sweet; the core is then taken out entire, and the rest of the fruit thrown into a hole in their houses, dug on purpose, and neatly lined in the bottom and sides with grass. The whole is then covered with leaves, and heavy stones are laid upon it. In this state it undergoes a second fermentation, and becomes sour; after which it will suffer no change for many months. It is taken out of this hole as it is wanted for use, and being made into balls, it is wrapped up in leaves and baked, and thus dressed it will keep for five or six weeks. It is eaten, both cold and hot, and the natives of those countries seldom make a meal without it; but to Captain Cook and his company the taste was disagreeable as that of a pickled olive generally is the first time it is eaten.

MAHO. See *HIBISCUS*, *BOTANY Index*.

MAHOGANY. See *SWIETENIA*, *BOTANY Index*.

MAHOMET, or MOHAMMED, styled the *Impostor*, was born in the reign of Anushirwan the Just, emperor of Persia, about the end of the 6th century of the Christian era. He came into the world under some disadvantages. His father Abd'allah was a younger son of Abd'almotaleb; and dying very young, and in his father's lifetime, left his widow and infant son in very mean circumstances, his whole substance consisting but of five camels and one Ethiopian slave. Abd'almotaleb was therefore obliged to take care of his grandchild Mahomet; which he not only did during his life, but at his death enjoined his eldest son Abu Taleb, who was brother to Abd'allah by the same mother to provide for him for the future; which he very affectionately did, and instructed him in the business of a merchant, which he followed; and to that end he took him into Syria when he was but 13. He afterwards recommended him to Khadijah, a noble and rich widow, for her factor; in whose service he behaved himself so well, that by making him her husband she soon raised him to an equality with the richest in Mecca.

After he began by this advantageous match to live at his ease, it was, that he formed the scheme of establishing a new religion, or, as he expressed it, of replanting the only true and ancient one professed by Adam, Noah, Abraham, Moses, Jesus, and all the prophets, by destroying the gross idolatry into which the generality of his countrymen had fallen, and weeding out the corruptions and superstitions which the latter Jews and Christians had, as he thought, introduced into their religion, and reducing it to its original purity, which consisted chiefly in the worship of one only God.

Before he made any attempt abroad, he rightly judged that it was necessary for him to begin with the conversion of his own household. Having therefore retired with his family, as he had done several times before, to a cave in Mount Hara, he there opened the secret of his mission to his wife Khadijah; and ac-

quainted her, that the angel Gabriel had just before appeared to him, and told him that he was appointed the apostle of God: he also repeated to her a passage which he pretended had been revealed to him by the ministry of the angel, with those other circumstances of this first appearance, which are related by the Mahometan writers. Khadijah received the news with great joy; swearing by him in whose hands her soul was, that she trusted he would be the prophet of his nation; and immediately communicated what she had heard to her cousin Warakah Ebn Nawfal, who, being a Christian, could write in the Hebrew character, and was tolerably well versed in the scriptures; and he as readily came into her opinion, assuring her that the same angel who had formerly appeared unto Moses was now sent to Mahomet. The first overture the prophet made was in the month of Ramadan, in the 40th year of his age, which is therefore usually called the year of his mission.

Encouraged by so good a beginning, he resolved to proceed, and try for some time what he could do by private persuasion, not daring to hazard the whole affair by exposing it too suddenly to the public. He soon made proselytes of those under his own roof, viz. his wife Khadijah, his servant Zeid Ebn Haretha, to whom he gave his freedom on that occasion, (which afterwards became a rule to his followers), and his cousin and pupil Ali, the son of Abu Taleb, though then very young; but this last, making no account of the other two, used to style himself the *first of believers*. The next person Mahomet applied to was Abd'allah Ebn Abi Kohafa, surnamed *Abu Becr*, a man of great authority among the Koreish, and one whose interest he well knew would be of great service to him; as it soon appeared: for Abu Becr, being gained over, prevailed also on Othman Ebn Affan, Abd'alraham Ebn Awf, Saad Ebn Abbi Wakkas, Al Zobeir Ebn al Awam, and Telha Ebn Obeid'allah, all principal men of Mecca, to follow his example. These men were the six chief companions, who, with a few more, were converted in the space of three years: at the end of which, Mahomet having, as he hoped, a sufficient interest to support him, made his mission no longer a secret, but gave out that God had commanded him to amend his near relations; and in order to do it with more convenience and prospect of success, he directed Ali to prepare an entertainment, and invite the sons and descendants of Abd'almotaleb, intending then to open his mind to them. This was done, and about 40 of them came; but Abu Laheh, one of his uncles, making the company break up before Mahomet had an opportunity of speaking, obliged him to give them a second invitation the next day; and when they were come he made them the following speech: "I know no man in all Arabia who can offer his kindred a more excellent thing than I now do you; I offer you happiness both in this life, and in that which is to come; God Almighty hath commanded me to call you unto him: Who, therefore, among you will be assiduous to me herein, and become my brother and my vicegerent?" All of them hesitating, and declining the matter, Ali at length rose up, and declared that he would be his assiduous; and vehemently threatened those who should oppose him. Mahomet upon this embraced Ali with great demonstrations of affection, and desired all who



Mahomet. were present to hearken to and obey him as his deputy; at which the company broke out into a great laughter, telling Abu Taleb that he must now pay obedience to his son.

This repulse, however, was so far from discouraging Mahomet, that he began to preach in public to the people; who heard him with some patience, till he came to upbraid them with the idolatry, obstinacy, and perverseness of themselves and their fathers: which so highly provoked them, that they declared themselves his enemies; and would soon have procured his ruin, had he not been protected by Abu Taleb. The chief of the Koreish warmly solicited this person to desert his nephew, making frequent remonstrances against the innovations he was attempting; which proving ineffectual, they at length threatened him with an open rupture, if he did not prevail on Mahomet to desist. At this Abu Taleb was so far moved, that he earnestly dissuaded his nephew from pursuing the affair any farther, representing the great danger he and his friends must otherwise run. But Mahomet was not to be intimidated; telling his uncle plainly, *that if they set the sun against him on his right hand, and the moon on his left, he would not leave his enterprise*: And Abu Taleb, seeing him so firmly resolved to proceed, used no further arguments, but promised to stand by him against all his enemies.

The Koreish, finding they could prevail neither by fair words or menaces, tried what they could do by force and ill treatment; using Mahomet's followers so very injuriously, that it was not safe for them to continue at Mecca any longer: whereupon Mahomet gave leave to such of them as had not friends to protect them to seek for refuge elsewhere. And accordingly in the fifth year of the prophet's mission, 16 of them, four of whom were women, fled into Ethiopia; and among them Othman Ebn Affan and his wife Rakiyah, Mahomet's daughter. This was the first flight; but afterwards several others followed them, retiring one after another, to the number of 83 men and 18 women, besides children. These refugees were kindly received by the Najasli, or king of Ethiopia; who refused to deliver them up to those whom the Koreish sent to demand them, and, as the Arab writers unanimously attest, even professed the Mahometan religion.

In the sixth year of his mission, Mahomet had the pleasure of seeing his party strengthened by the conversion of his uncle Hamza, a man of great valour and merit; and of Omar Ebn al Kattab, a person highly esteemed, and once a violent opposer of the prophet. As persecution generally advances rather than obstructs the spreading of a religion, Islamism made so great a progress among the Arab tribes, that the Koreish, to suppress it effectually if possible, in the seventh year of Mahomet's mission, made a solemn league or covenant against the Hashemites and the family of Abd'almotaleb, engaging themselves to contract no marriages with any of them, and to have no communication with them; and, to give it the greater sanction, reduced it into writing, and laid it up in the caaba. Upon this the tribe became divided into two factions; and the family of Hashem all repaired to Abu Taleb, as their head: except only Abd'al Uzza, surnamed *Abu Lahab*, who, out of inveterate hatred to his nephew and

his doctrine, went over to the opposite party, whose Mahomet. chief was Abu Sofian Ebn Harb, of the family of Ommeya.

The families continued thus at variance for three years; but in the tenth year of his mission, Mahomet told his uncle Abu Taleb, that God had manifestly showed his disapprobation of the league which the Koreish had made against them, by sending a worm to eat out every word of the instrument except the name of *God*. Of this accident Mahomet had probably some private notice: for Abu Taleb went immediately to the Koreish, and acquainted them with it; offering, if it proved false, to deliver his nephew up to them; but in case it were true, he insisted that they ought to lay aside their animosity, and annul the league they had made against the Hashemites. To this they acquiesced; and going to inspect the writing, to their great astonishment found it to be as Abu Taleb had said; and the league was thereupon declared void.

In the same year Abu Taleb died, at the age of above fourscore, and it is the general opinion that he died an infidel: though others say, that when he was at the point of death he embraced Mahometanism; and produce some passages out of his poetical compositions to confirm their assertion. About a month, or, as some write, three days after the death of this great benefactor and patron, Mahomet had the additional mortification to lose his wife Khadijah, who had so generously made his fortune. For which reason this year is called the *year of mourning*.

On the death of these two persons, the Koreish began to be more troublesome than ever to their prophet, and especially some who had formerly been his intimate friends; insomuch that he found himself obliged to seek for shelter elsewhere, and first pitched upon Tayef, about 60 miles east from Mecca, for the place of his retreat. Thither therefore he went, accompanied by his servant Zeid, and applied himself to two of the chief of the tribe of Thakif who were the inhabitants of that place; but they received him very coldly. However, he staid there a month; and some of the more considerate and better sort of men treated him with a little respect: but the slaves and inferior people at length rose against him; and bringing him to the wall of the city, obliged him to depart and return to Mecca, where he put himself under the protection of Al Motaam Ebn Adi.

This repulse greatly discouraged his followers. However, Mahomet was not wanting to himself; but boldly continued to preach to the public assemblies at the pilgrimage, and gained several profelytes; and among them six of the inhabitants of Yathreb of the Jewish tribe of Khazraj; who, on their return home, failed not to speak much in commendation of their new religion, and exhorted their fellow citizens to embrace the same.

In the 12th year of his mission it was that Mahomet gave out that he had made his night-journey from Mecca to Jerusalem, and thence to heaven, so much spoken of by all that write of him. Dr Prideaux thinks he invented it, either to answer the expectations of those who demanded some miracle as a proof of his mission; or else, by pretending to have conversed with God, to establish the authority of whatever he should think fit to leave behind by way of oral tradition, and make



Mahomet. make his sayings to serve the same purpose as the oral law of the Jews. But it does not appear that Mahomet himself ever expected so great a regard should be paid to his sayings, as his followers have since done; and seeing he all along disclaimed any power of performing miracles, it seems rather to have been a fetch of policy to raise his reputation, by pretending to have actually conversed with God in heaven, as Moses had heretofore done in the Mount, and to have received several institutions immediately from him, whereas before he contented himself with persuading them that he had all by the ministry of Gabriel.

However, this story seemed so absurd and incredible, that several of his followers left him upon it; and had probably ruined the whole design, had not Abu Becr vouched for his veracity, and declared, that, if Mahomet affirmed it to be true, he verily believed the whole. Which happy incident not only retrieved the prophet's credit, but increased it to such a degree, that he was secure of being able to make his disciples swallow whatever he pleased to impose on them for the future. And this fiction, notwithstanding its extravagance, was one of the most artful contrivances Mahomet ever put in practice, and what chiefly contributed to the raising of his reputation to that great height to which it afterwards arrived.

In this year, called by the Mahometans the *accepted year*, 12 men of Yathreb or Medina, of whom 10 were of the tribe of Khazraj, and the other two of that of Aws, came to Mecca, and took an oath of fidelity to Mahomet at Al Akaba, a hill on the north of that city. This oath was called the *women's oath*; not that any women were present at this time, but because a man was not thereby obliged to take up arms in defence of Mahomet or his religion; it being the same oath that was afterwards exacted of the women, the form of which we have in the Koran, and is to this effect: viz. That they should renounce all idolatry; that they should not steal, nor commit fornication, nor kill their children (as the Pagan Arabs used to do when they apprehended they should not be able to maintain them), nor forge calumnies; and that they should obey the prophet in all things that were reasonable. When they had solemnly engaged to all this, Mahomet sent one of his disciples, named *Masab Ebn Omair*, home with them, to instruct them more fully in the grounds and ceremonies of his new religion.

Masab being arrived at Medina, by the assistance of those who had been formerly converted, gained several proselytes, particularly Ofaid Ebn Hodeira, a chief man of the city, and Saad Ebn Moadh, prince of the tribe of Aws; Mahometanism spreading so fast, that there was scarce a house wherein there were not some who had embraced it.

The next year, being the 13th of Mahomet's mission, Masab returned to Mecca, accompanied by 73 men and two women of Medina who had professed Islamism, besides some others who were as yet unbelievers. On their arrival, they immediately sent to Mahomet, and offered him their assistance, of which he was now in great need; for his adversaries were by this time grown so powerful in Mecca, that he could not stay there much longer without imminent danger. Wherefore he accepted their proposal, and met them one night, by appointment, at Al Akaba above mentioned,

attended by his uncle Al Abbas; who, though he was not then a believer, wished his nephew well, and made a speech to those of Medina, wherein he told them, that as Mahomet was obliged to quit his native city, and seek an asylum elsewhere, and they had offered him their protection, they would do well not to deceive him; that if they were not firmly resolved to defend, and not betray him, they had better declare their minds, and let him provide for his safety in some other manner. Upon their protesting their sincerity, Mahomet swore to be faithful to them, on condition that they should protect him against all insults as heartily as they would their own wives and families. They then asked him what recompense they were to expect if they should happen to be killed in his quarrel; he answered, Paradise. Whereupon they pledged their faith to him, and so returned home; after Mahomet had chosen 12 out of their number, who were to have the same authority among them as the 12 apostles of Christ had among his disciples.

Hitherto Mahomet had propagated his religion by fair means; so that the whole success of his enterprise, before his flight to Medina, must be attributed to persuasion only, and not to compulsion. For before this second oath of fealty or inauguration at Al Akaba, he had no permission to use any force at all; and in several places of the Koran, which he pretended were revealed during his stay at Mecca, he declares his business was only to preach and admonish; that he had no authority to compel any person to embrace his religion; and that, whether people believe or not, was none of his concern, but belonged solely unto God. And he was so far from allowing his followers to use force, that he exhorted them to bear patiently those injuries which were offered them on account of their faith; and, when persecuted himself, chose rather to quit the place of his birth and retire to Medina, than to make any resistance. But this great passiveness and moderation seem entirely owing to his want of power, and the great superiority of his opposers for the first 12 years of his mission; for no sooner was he enabled, by the assistance of those of Medina, to make head against his enemies, than he gave out, that God had allowed him and his followers to defend themselves against the infidels; and at length, as his forces increased, he pretended to have the divine leave even to attack them, and to destroy idolatry, and set up the true faith by the sword; finding, by experience, that his designs would otherwise proceed very slowly, if they were not utterly overthrown; and, knowing, on the other hand, that innovators, when they depend solely on their own strength, and can compel, seldom run any risk; from whence, says Machiavel, it follows, that all the armed prophets have succeeded, and the unarmed ones have failed. Moses, Cyrus, Theseus, and Romulus, would not have been able to establish the observance of their institutions for any length of time, had they not been armed. The first passage of the Koran, which gave Mahomet the permission of defending himself by arms, is said to have been that in the 22d chapter; after which a great number to the same purpose were revealed.

That Mahomet had a right to take up arms for his own defence against his unjust persecutors, may perhaps be allowed; but whether he ought afterwards to



Mahomet. have made use of that means for the establishing of his religion, it is not so easy to determine. How far the secular power may or ought to interpose in affairs of this nature, mankind are not agreed. The method of converting by the sword gives no very favourable idea of the faith which is so propagated, and is disallowed by every body in those of another religion, though the same persons are willing to admit of it for the advancement of their own: supposing that, though a false religion ought not to be established by authority, yet a true one may: and accordingly force is almost as constantly employed in these cases by those who have the power in their hands, as it is constantly complained of by those who suffer the violence. It is certainly one of the most convincing proofs that Mahometanism was no other than a human invention, that it owed its progress and establishment almost entirely to the sword; and it is one of the strongest demonstrations of the divine original of Christianity, that it prevailed against all the force and powers of the world by the mere dint of its own truth, after having stood the assaults of all manner of persecutions, as well as other oppositions, for 300 years together, and at length made the Roman emperors themselves submit thereto; after which time, indeed, this proof seems to fail, Christianity being then established, and Paganism abolished, by public authority, which has had great influence in the propagation of the one and destruction of the other ever since. But to return.

Mahomet, having provided for the security of his companions as well as his own, by the league offensive and defensive which he had now concluded with those of Medina, directed them to repair thither, which they accordingly did; but himself with Abu Becr and Ali staid behind, having not yet received the divine permission, as he pretended, to leave Mecca. The Koreish fearing the consequence of this new alliance, began to think it absolutely necessary to prevent Mahomet's escape to Medina; and having held a council thereon, after several milder expedients had been rejected, they came to a resolution that he should be killed; and agreed that a man should be chosen out of every tribe for the execution of this design; and that each man should have a blow at him with his sword, that the guilt of his blood might fall equally on all the tribes, to whose united power the Halhemites were much inferior, and therefore durst not attempt to revenge their kinsman's death.

This conspiracy was scarce formed, when, by some means or other, it came to Mahomet's knowledge; and he gave out that it was revealed to him by the angel Gabriel, who had now ordered him to retire to Medina. Whereupon, to amuse his enemies, he directed Ali to lie down in his place, and wrap himself up in his green cloak, which he did; and Mahomet escaped miraculously, as they pretend, to Abu Becr's house, unperceived by the conspirators, who had already assembled at the prophet's door. They, in the mean time, looking through the crevice, and seeing Ali, whom they took to be Mahomet himself, asleep, continued watching there till morning, when Ali awoke, and they found themselves deceived.

From Abu Becr's house Mahomet and he went to a cave in Mount Thur, to the south-east of Mecca, accompanied only by Amer Ebn Foheirah, Abu Becr's

servant, and Abd'allah Ebn Oreitah, an idolater whom they had hired for a guide. In this cave they lay hid three days, to avoid the search of their enemies; which they very narrowly escaped, and not without the assistance of more miracles than one: for some say that the Koreish were struck with blindness, so that they could not find the cave; others, that after Mahomet and his companions were got in, two pigeons laid their eggs at the entrance, and a spider covered the mouth of the cave with her web, which made them look no farther. Abu Becr, seeing the prophet in such imminent danger, became very sorrowful; whereupon Mahomet comforted him with these words, recorded in the Koran, *Be not grieved, for God is with us*. Their enemies being retired, they left the cave, and set out for Medina, by a by-road; and having fortunately, or, as the Mahometans tell us, miraculously, escaped some who were sent to pursue them, arrived safely at that city; whither Ali followed them in three days, after he had settled some affairs at Mecca.

The first thing Mahomet did after his arrival at Medina, was to build a temple for his religious worship, and a house for himself, which he did on a parcel of ground which had before served to put camels in, or, as others tell us, for a burying-ground, and belonged to Sahal and Soheil the sons of Amru, who were orphans. This action Dr Prideaux exclaims against, representing it as a flagrant instance of injustice; for that, says he, he violently dispossessed these poor orphans, the sons of an inferior artificer (whom the author he quotes calls a *carpenter*), of this ground, and so founded the first fabric of his worship with the like wickedness as he did his religion. But, to say nothing of the improbability that Mahomet should act in so impolitic a manner at his first coming, the Mahometan writers set this affair in a quite different light: one tells us that he treated with the lads about the price of the ground, but they desired he would accept it as a present: however, as historians of good credit assure us, he actually bought it; and the money was paid by Abu Becr. Besides, had Mahomet accepted it as a present, the orphans were in circumstances sufficient to have afforded it: for they were of a very good family, of the tribe of Najjer, one of the most illustrious among the Arabs; and not the sons of a carpenter, as Dr Prideaux's author writes, who took the word *Najjer*, which signifies "a carpenter," for an appellative, whereas it is a proper name.

Mahomet, being securely settled at Medina, and able not only to defend himself against the insults of his enemies, but to attack them, began to send out small parties to make reprisals on the Koreish; the first party consisting of no more than nine men, who intercepted and plundered a caravan belonging to that tribe, and in the action took two prisoners. But what established his affairs very much, and was the foundation on which he built all his succeeding greatness, was the gaining of the battle of Bedr, which was fought in the second year of the Hegira, and is so famous in the Mahometan history. Some reckon no less than 27 expeditions wherein Mahomet was personally present, in nine of which he gave battle, besides several other expeditions in which he was not present.

His



Mahomet. His forces he maintained partly by the contributions of his followers for this purpose, which he called by the name of *zaccat* or *alms*, and the paying of which he very artfully made one main article of his religion; and partly by ordering a fifth part of the plunder to be brought into the public treasury for that purpose, in which matter he likewise pretended to act by the divine direction.

In a few years, by the success of his arms (notwithstanding he sometimes came off by the worst) he considerably raised his credit and power. In the sixth year of the Hegira he set out with 1400 men to visit the temple of Mecca, not with any intent of committing hostilities, but in a peaceable manner. However, when he came to Al Hodeibiya, which is situated partly within and partly without the sacred territory, the Koreish sent to let him know that they would not permit him to enter Mecca, unless he forced his way; whereupon he called his troops about him, and they all took a solemn oath of fealty or homage to him, and he resolved to attack the city; but those of Mecca sending Arwa Ebn Masun, prince of the tribe of Thakif, as their ambassador to desire peace, a truce was concluded between them for ten years, by which any person was allowed to enter into league either with Mahomet, or with the Koreish, as he thought fit.

It may not be improper, in order to show the inconceivable veneration and respect the Mahometans by this time had for their prophet, to mention the account which the above-mentioned ambassador gave the Koreish, at his return, of their behaviour. He said he had been at the courts both of the Roman emperor and of the king of Persia, and never saw any prince so highly respected by his subjects as Mahomet was by his companions; for, whenever he made the ablution, in order to say his prayers, they ran and caught the water that he had used; and, whenever he spit, they immediately licked it up, and gathered every hair that fell from him with great superstition.

In the seventh year of the Hegira, Mahomet began to think of propagating his religion beyond the bounds of Arabia; and sent messengers to the neighbouring princes, with letters to invite them to Mahometanism. Nor was this project without some success. Khofru Parviz, then king of Persia, received his letter with great disdain, and tore it in a passion, sending away the messenger very abruptly; which when Mahomet heard, he said *God shall tear his kingdom*. And soon after a messenger came to Mahomet from Badhan king of Yaman, who was a dependant on the Persians, to acquaint him that he had received orders to send him to Khofru. Mahomet put off his answer till the next morning, and then told the messenger it had been revealed to him that night that Khofru was slain by his son Shiruyeh: adding that he was well assured his new religion and empire should rise to as great a height as that of Khofru; and therefore bid him advise his master to embrace Mahometanism. The messenger being returned, Badhan in a few days received a letter from Shiruyeh, informing him of his father's death, and ordering him to give the prophet no further disturbance. Whereupon Badhan and the Persians with him turned Mahometans.

The emperor Heraclius, as the Arabian historians

assure us, received Mahomet's letter with great respect, laying it on his pillow, and dismissed the bearer honourably. And some pretend that he would have professed this new faith, had he not been afraid of losing his crown.

Mahomet wrote to the same effect to the king of Ethiopia, though he had been converted before, according to the Arab writers; and to Mokawkas, governor of Egypt, who gave the messenger a very favourable reception, and sent several valuable presents to Mahomet, and among the rest two girls, one of which, named Mary, became a great favourite with him. He also sent letters of the like purport to several Arab princes; particularly one to Al Hareth Ebn Abi Shamar king of Ghassan, who returning for answer that he would go to Mahomet himself, the prophet said, *May his kingdom perish*; another to Hawdha Ebn Ali, king of Yamama, who was a Christian, and, having some time before professed Islamism, had lately returned to his former faith; this prince sent back a very rough answer, upon which Mahomet cursing him, he died soon after: and a third to Al Monder Ebn Sawa, king of Bahrein, who embraced Mahometanism, and all the Arabs of that country followed his example.

The eighth year of the Hegira was a very fortunate year to Mahomet. In the beginning of it, Khaled Ebn al Walid and Amru Ebn al As, both excellent soldiers, the first of whom afterwards conquered Syria and other countries, and the latter Egypt, became profelytes to Mahometanism. And soon after the prophet sent 3000 men against the Grecian forces, to revenge the death of one of his ambassadors, who, being sent to the governor of Bosra on the same errand as those who went to the above-mentioned princes, was slain by an Arab, of the tribe of Ghassan, at Muta, a town in the territory of Balka in Syria, about three days journey eastward from Jerusalem, near which town they encountered. The Grecians being vastly superior in number (for, including the auxiliary Arabs, they had an army of 100,000 men), the Mahometans were repulsed in the first attack, and lost successively three of their generals, viz. Zeid Ebn Haretha Mahomet's freedman, Jaafar the son of Abu Taleb, and Abdallah Ebn Rawaha: but Khaled Ebn al Walid succeeding to the command, overthrew the Greeks with a great slaughter, and brought away abundance of rich spoil; on occasion of which action Mahomet gave him the title of *Seif min Juyuf Allah*, "one of the swords of God."

In this year also Mahomet took the city of Mecca, the inhabitants whereof had broken the truce concluded on two years before. For the tribe of Becr who were confederates with the Koreish, attacking those of Khozaah, who were allies of Mahomet, killed several of them, being supported in the action by a party of the Koreish themselves. The consequence of this violation was soon apprehended; and Abu Sossian himself made a journey to Medina on purpose to heal the breach and renew the truce: but in vain; for Mahomet, glad of this opportunity, refused to see him: whereupon he applied to Abu Becr and Ali; but they giving him no answer, he was obliged to return to Mecca as he came.

Mahomet immediately gave orders for preparations to



Mahomet to be made, that he might surprize the Meccans while they were unprovided to receive him: in a little time he began his march thither; and by that time he came near the city, his forces were increased to 10,000 men. Those of Mecca, being not in a condition to defend themselves against so formidable an army, surrendered at discretion; and Abu Sofian saved his life by turning Mahometan. About 28 of the idolaters were killed by a party under the command of Khaled; but this happened contrary to Mahomet's orders, who, when he entered the town, pardoned all the Koreish on their submission, except only six men and four women, who were more obnoxious than ordinary (some of them having apostatized), and were solemnly proscribed by the prophet himself; but of these no more than three men and one woman were put to death, the rest obtaining pardon on their embracing Mahometanism, and one of the women making her escape.

The remainder of this year Mahomet employed in destroying the idols in and round Mecca, sending several of his generals on expeditions for that purpose, and to invite the Arabs to Islamism: wherein it is no wonder if they now met with success.

The next year, being the ninth of the Hegira, the Mahometans call *the year of embassies*: for the Arabs had been hitherto expecting the issue of the war between Mahomet and the Koreish: but, so soon as that tribe, the principal of the whole nation, and the genuine descendants of Ishmael, whose prerogatives none offered to dispute, had submitted, they were satisfied that it was not in their power to oppose Mahomet; and therefore began to come in to him in great numbers, and to send embassies to make their submissions to him, both to Mecca, while he staid there, and also to Medina, whither he returned this year. Among the rest, five kings of the tribe of Hamyar professed Mahometanism, and sent ambassadors to notify the same.

In the 10th year, Ali was sent into Yaman to propagate the Mahometan faith there; and, as it is said, converted the whole tribe of Hamdan in one day. Their example was quickly followed by all the inhabitants of that province, except only those of Najran, who, being Christians, chose rather to pay tribute.

Thus was Mahometanism established, and idolatry rooted out, even in Mahomet's lifetime (for he died the next year), throughout all Arabia, except only Yamama, where Moseilama, who set up also for a prophet as Mahomet's competitor, had a great party, and was not reduced till the caliphate of Abu Bcer: and the Arabs being then united in one faith, and under one prince, found themselves in a condition of making those conquests which extended the Mahometan faith over so great a part of the world.

MAHOMET, the name of several emperors of the Turks; of whom the most celebrated is,

MAHOMET II. surnamed *the Great*, their seventh sultan. See TURKEY.

He was born at Adrianople the 24th of March 1430; and is to be remembered chiefly by us for taking Constantinople in 1453, and thereby driving many learned Greeks into the west, which was a great cause of the restoration of learning in Europe, as the

Greek literature was then introduced here. He was one of the greatest men upon record, with regard to the qualities necessary to a conqueror; for he conquered two empires, twelve kingdoms, and two hundred considerable cities. He was very ambitious of the title of Great, and the Turks gave it him; even the Christians have not disputed it with him; for he was the first of the Ottoman emperors whom the Western nations dignified with the title of Grand Seignior or Great Turk, which posterity has preserved to his descendants. Italy had suffered greater calamities, but she had never felt a terror equal to that which this sultan's victories imprinted. The inhabitants seemed already condemned to wear the turban: it is certain, that Pope Sixtus IV. represented to himself Rome as already involved in the dreadful fate of Constantinople; and thought of nothing but escaping into Provence, and once more transferring the holy see to Avignon. Accordingly, the news of Mahomet's death, which happened the 3d of May 1481, was received at Rome with the greatest joy that ever was beheld there. Sixtus caused all the churches to be thrown open, made the trades people leave off their work, ordered a feast of three days, with public prayers and processions, commanded a discharge of the whole artillery of the castle of St Angelo all that time, and put a stop to his journey to Avignon.

He appears to be the first sultan who was a lover of arts and sciences; and even cultivated polite letters. He often read the History of Augustus, and the other Cæsars; and he perused those of Alexander, Constantine, and Theodosius, with more than ordinary pleasure, because these had reigned in the same country with himself. He was fond of painting, music, and sculpture; and he applied himself to the study of agriculture. He was much addicted to astrology; and used to encourage his troops by giving out, that the motion and influence of the heavenly bodies promised him the empire of the world. Contrary to the genius of his country, he delighted so much in the knowledge of foreign languages, that he not only spoke the Arabian, to which the Turkish laws, and the religion of their legislator Mahomet, are appropriated, but also the Persian, the Greek, and the French, that is, the corrupted Italian. Landin, a knight of Rhodes, collected several letters which this sultan wrote in the Syriac, Greek, and Turkish languages, and translated them into Latin. Where the originals are, nobody knows; but the translation has been published several times; as at Lyons 1520, in 4to; at Basil 1554, 12mo; in a collection published by Oporinus, at Marburg 1604, in 8vo; and at Leipzig 1690, in 12mo. Melchior Junius, professor of eloquence at Strasburg, published at Montbeliard, 1595, a collection of letters, in which there are three written by Mahomet II. to Scanderbeg. One cannot discover the least air of Turkish ferocity in these letters: they are written in as civil terms, and as obliging a manner, as the most polite prince in Christendom could have written.

MAHOMETANISM, or MAHOMETISM, the system of religion broached by Mahomet, and still adhered to by his followers. See MAHOMET, and AL-CORAN.

Mahometanism



Mahometanism is professed by the Turks, Persians, and several nations among the Africans, and many among the East Indians.

The Mahometans divide their religion into two general parts, faith and practice: of which the first is divided into six distinct branches: Belief in God, in his angels, in his scriptures, in his prophets, in the resurrection and final judgement, and in God's absolute decrees. The points relating to practice are, prayer, with washings, &c. alms, fasting, pilgrimage to Mecca, and circumcision.

I. Of the Mahometan Faith.] 1. That both Mahomet, and those among his followers who are reckoned orthodox, had and continue to have just and true notions of God and his attributes, appears so plain from the Koran itself, and all the Mahometan divines, that it would be loss of time to refute those who suppose the God of Mahomet to be different from the true God, and only a fictitious deity or idol of his own creation.

2. The existence of angels, and their purity, are absolutely required to be believed in the Koran; and he is reckoned an infidel who denies there are such beings, or hates any of them, or asserts any distinction of sexes among them. They believe them to have pure and subtle bodies, created of fire; that they neither eat nor drink, nor propagate their species; that they have various forms and offices, some adoring God in different postures, others singing praises to him, or interceding for mankind. They hold, that some of them are employed in writing down the actions of men; others in carrying the throne of God, and other services.

The four angels, whom they look on as more eminently in God's favour, and often mention on account of the offices assigned them, are, Gabriel, to whom they give several titles, particularly those of the *holy spirit*, and the *angel of revelations*, supposing him to be honoured by God with a greater confidence than any other, and to be employed in writing down the divine decrees; Michael, the friend and protector of the Jews; Azrael, the *angel of death*, who separates men's souls from their bodies; and Israfil, whose office it will be to sound the trumpet at the resurrection. The Mahometans also believe, that two guardian angels attend on every man, to observe and write down his actions, being changed every day, and therefore called at *Moakibat*, or "the angels who continually succeed one another."

The devil, whom Mahomet names *Eblis*, from his *despair*, was once one of those angels who are nearest to God's presence, called *Azazel*; and fell, according to the doctrine of the Koran, for refusing to pay homage to Adam at the command of God.

Besides angels and devils, the Mahometans are taught by the Koran to believe an intermediate order of creatures, which they call *jinn* or *genii*, created also of fire, but of a grosser fabric than angels, since they eat and drink, and propagate their species, and are subject to death. Some of these are supposed to be good and others bad, and capable of future salvation or damnation, as men are; whence Mahomet pretended to be sent for the conversion of *genii* as well as men.

3. As to the Scriptures, the Mahometans are taught

by the Koran, that God, in divers ages of the world, gave revelations of his will in writing to several prophets, the whole and every one of which it is absolutely necessary for a good Moslem to believe. The number of these sacred books was, according to them, 104. Of which 10 were given to Adam, 50 to Seth, 30 to Edris or Enoch, 10 to Abraham; and the other four, being the Pentateuch, the Psalms, the Gospel, and the Koran, were successively delivered to Moses, David, Jesus, and Mahomet; which last being the seal of the prophets, those revelations are now closed, and no more are to be expected. All these divine books, except the four last, they agree to be now entirely lost, and their contents unknown; though the Sabians have several books which they attribute to some of the antediluvian prophets. And of those four, the Pentateuch, Psalms, and Gospel, they say, have undergone so many alterations and corruptions, that, though there may possibly be some part of the true word of God therein, yet no credit is to be given to the present copies in the hands of the Jews and Christians. The Mahometans have also a gospel in Arabic, attributed to St Barnabas; wherein the history of Jesus Christ is related in a manner very different from what we find in the true gospels, and correspondent to those traditions which Mahomet has followed in his Koran. Of this gospel the Moriscos in Africa have a translation in Spanish; and there is, in the library of Prince Eugene of Savoy, a manuscript of some antiquity, containing an Italian translation of the same gospel; made, it is to be supposed, for the use of renegades. This book appears to be no original forgery of the Mahometans; though they have, no doubt, interpolated and altered it since, the better to serve their purpose; and in particular, instead of the *Paraclete*, or *Comforter*, they have in this apocryphal gospel inserted the word *Periclyte*, that is, the "famous," or "illustrious;" by which they pretend their prophet was foretold by name, that being the signification of *Mohammed* in Arabic: and this they say to justify that passage of the Koran, where Jesus Christ is formally asserted to have foretold his coming, under his other name of *Ahmed*, which is derived from the same root as *Mohammed*, and of the same import. From these, or some other forgeries of the same stamp, it is that the Mahometans quote several passages, of which there are not the least footsteps in the New Testament.

4. The number of the prophets, which have been from time to time sent by God into the world amounts to no less than 224,000, according to one Mahometan tradition; or to 124,000, according to another; among whom 313 were apostles, sent with special commissions to reclaim mankind from infidelity and superstition; and six of them brought new laws or dispensations, which successively abrogated the preceding; these were Adam, Noah, Abraham, Moses, Jesus, and Mahomet. All the prophets in general, the Mahometans believe to have been free from great sins and errors of consequence, and professors of one and the same religion, that is, Islam, notwithstanding the different laws and institutions which they observed. They allow of degrees among them, and hold some of them to be more excellent and honourable than others. The first place they give to the revealers and



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and establishers of new dispensations, and the next to the apostles.

In this great number of prophets, they not only reckon divers patriarchs and persons named in scripture, but not recorded to have been prophets, (wherein the Jewish and Christian writers have sometimes led the way), as Adam, Seth, Lot, Ithmael, Nun, Joshua, &c. and introduce some of them under different names, as *Enoch, Heber, and Jethro*, who are called, in the Koran, *Edris, Hud, and Shoaib*: but several others whose very names do not appear in Scripture (though they endeavour to find some persons there to fix them on), as Salch, Khedr, Dhu'lkedi, &c.

5. The belief of a general resurrection and a future judgement.

When a corpse is laid in the grave, they say he is received by an angel, who gives him notice of the coming of the two examiners; who are two black livid angels, of a terrible appearance, named *Monker* and *Nakir*. These order the dead person to sit upright; and examine him concerning his faith, as to the unity of God, and the mission of Mahomet: if he answer rightly, they suffer the body to rest in peace, and it is refreshed by the air of paradise; but, if not, they beat him on the temples with iron maces, till he roars out for anguish so loud, that he is heard by all from east to west, except men and genii. They then press the earth on the corpse, which is gnawed and stung till the resurrection by 99 dragons, with seven heads each; or, as others say, their fangs will become venomous beasts, the grievous ones stinging like dragons, the smaller like scorpions, and the others like serpents: circumstances which some understand in a figurative sense.

As to the soul, they hold, that when it is separated from the body by the angel of death, who performs his office with ease and gentleness towards the good, and with violence towards the wicked, it enters into that which they call *al bersakh*, or the interval between death and the resurrection. If the departed person was a believer, they say two angels meet it, who convey it to heaven, that its place there may be assigned, according to its merit and degree. For they distinguish the souls of the faithful into three classes: The first of prophets, whose souls are admitted into paradise immediately; the second of martyrs, whose spirits, according to a tradition of Mahomet, rest in the crops of green birds, which eat of the fruits and drink of the rivers of paradise; and the third of other believers, concerning the state of whose souls before the resurrection there are various opinions.

Though some among the Mahometans have thought that the resurrection will be merely spiritual, and no more than the returning of the soul to the place whence it first came (an opinion defended by Ebn Sina, and called by some the *opinion of the philosophers*); and others, who allow man to consist of body only, that it will be merely corporeal; the received opinion is, that both body and soul will be raised: and their doctors argue strenuously for the possibility of the resurrection of the body, and dispute with great subtilty concerning the manner of it. But Mahomet has taken care to preserve one part of the body, whatever becomes of the rest, to serve for a basis of the future edifice, or rather a haven for the mass which is to be join-

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ed to it. For he taught, that a man's body was entirely consumed by the earth, except only the bone called *al ajb*, which we name the *os coccygis*, or rumpbone; and that, as it was the first formed in the human body, it will also remain uncorrupted till the last day, as a seed from whence the whole is to be renewed; and this, he said, would be effected by a forty years rain, which God should send, and which would cover the earth to the height of 12 cubits, and cause the bodies to sprout forth like plants. Herein, also, is Mahomet beholden to the Jews; who say the same things of the bone *Luz*, excepting that what he attributes to a great rain, will be effected, according to them, by a dew impregnating the dust of the earth.

The time of the resurrection the Mahometans allow to be a perfect secret to all but God alone; the angel Gabriel himself acknowledging his ignorance in this point, when Mahomet asked him about it. However, they say, the approach of that day may be known from certain signs which are to precede it. These signs they distinguish into two sorts, the lesser and the greater.

The lesser signs are, 1. The decay of faith among men. 2. The advancing of the meanest persons to eminent dignity. 3. That a maid herself shall become the mother of her mistress (or master); by which is meant, either that towards the end of the world men shall be much given to sensuality, or that the Mahometans shall then take many captives. 4. Tumults and seditions. 5. A war with the Turks. 6. Great distress in the world, so that a man, when he passes by another's grave, shall say, Would to God I were in his place! 7. That the provinces of Irac and Syria shall refuse to pay their tribute. And, 8. That the buildings of Medina shall reach to Ahab, or Yahab.

The greater signs are, 1. The sun's rising in the west; which some have imagined it originally did. 2. The appearance of the beast, which shall rise out of the earth, in the temple of Mecca, or on Mount Safa, or in the territory of Tayef, or some other place. This beast, they say, is to be 60 cubits high; though others, not satisfied with so small a size, will have her reach to the clouds and to heaven, when her head only is out; and that the will appear for three days, but show only a third part of her body. They describe this monster, as to her form, to be a compound of various species; having the head of a bull, the eyes of a hog, the ears of an elephant, the horns of a stag, the neck of an ostrich, the breast of a lion, the colour of a tiger, the back of a cat, the tail of a ram, the legs of a camel, and the voice of an ass. Some say this beast is to appear three times in several places, and that the will bring with her the rod of Moses and the seal of Solomon; and, being so swift that none can overtake or escape her, will with the first strike all the believers on the face, and mark them with the word *mumen*, i. e. believer; and with the latter will mark the unbelievers on the face likewise, with the word *Cafir*, i. e. infidel, that every person may be known for what he really is. They add, that the same beast is to demonstrate the vanity of all religions except Islam, and to speak Arabic. All this stuff seems to be the result of a confused idea of the beast in the Revelation. 3. War with the Greeks, and the taking Constantinople by 70,000 of the posterity of Isaac, who shall



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shall not win that city by force of arms, but the walls shall fall down while they cry out, *There is no God but God, God is most great!* As they are dividing the spoil, news will come to them of the appearance of Antichrist; whereupon they shall leave all, and return back. 4. The coming of Antichrist, whom the Mahometans call *Majib al Dajjal*, i. e. the false or lying Christ, and simply *al Dajjal*. He is to be one-eyed, and marked on the forehead with the letters C. F. R. signifying *Caser*, or infidel. They say that the Jews give him the name of *Messiah Ben David*; and pretend he is to come in the last days, and to be lord both of land and sea, and that he will restore the kingdom to them. 5. The descent of Jesus on earth. They pretend that he is to defend near the white tower to the east of Damascus, when the people are returned from the taking of Constantinople: that he is to embrace the Mahometan religion, marry a wife, get children, kill Antichrist; and at length die after 40 years, or, according to others, 24 years continuance on earth. Under him, they say, there will be great security and plenty in the world, all hatred and malice being laid aside; when lions and camels, bears and sheep, shall live in peace, and a child shall play with serpents unhurt. 6. War with the Jews; of whom the Mahometans are to make a prodigious slaughter, the very trees and stones discovering such of them as hide themselves, except only the tree called *gharkad*, which is the tree of the Jews. 7. The irruption of Gog and Magog, or, as they are called in the east, *Tajuj* and *Majuj*; of whom many things are related in the Koran and the traditions of Mahomet. These barbarians, they tell us, having passed the lake of Tiberias, which the vanguard of their vast army will drink dry, will come to Jerusalem, and there greatly distress Jesus and his companions; till, at his request, God will destroy them, and fill the earth with their carcases, which, after some time, God will send birds to carry away, at the prayers of Jesus and his followers. Their bows, arrows, and quivers, the Moslems will burn for seven years together; and at last, God will send a rain to cleanse the earth and to make it fertile. 8. A smoke which shall fill the whole earth. 9. An eclipse of the moon. Mahomet is reported to have said, that there would be three eclipses before the last hour; one to be seen in the east, another in the west, and the third in Arabia. 10. The returning of the Arabs to the worship of Allat and Al Uzza, and the rest of their ancient idols, after the decease of every one in whose heart there was faith equal to a grain of mustard seed, none but the very worst of men being left alive. For God, they say, will send a cold odoriferous wind, blowing from Syria Damascus, which shall sweep away the souls of all the faithful, and the Koran itself, so that men will remain in the grossest ignorance for 100 years. 11. The discovery of a vast heap of gold and silver by the retreating of the Euphrates, which will be the destruction of many. 12. The demolition of the Caaba, or temple of Mecca, by the Ethiopians. 13. The speaking of beasts and inanimate things. 14. The breaking out of fire in the province of Hejaz; or, according to others, in Yaman. 15. The appearance of a man of the descendants of Kahtan, who shall drive men before him with his staff. 16. The coming of the Mohdi, or director; concerning whom Mahomet pro-

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phesed, that the world should not have an end till one of his own family should govern the Arabians, whose name should be the same with his own name, and whose father's name should also be the same with his father's name; and who should fill the earth with righteousness. This person the Shiites believe to be now alive, and concealed in some secret place till the time of his manifestation; for they suppose him no other than the last of the 12 imams, named *Mahomet Abul Kassem*, as their prophet was; and the son of Hassan al Askari, the 11th of that succession. He was born at Sermanrai, in the 255th year of the Hegira. From this tradition, it is to be presumed, an opinion pretty current among the Christians took its rise, that the Mahometans are in expectation of their prophet's return. 17. A wind which shall sweep away the souls of all who have but a grain of faith in their hearts, as has been mentioned under the tenth sign.

These are the greater signs, which, according to their doctrine, are to precede the resurrection, but still leave the hour of it uncertain: for the immediate sign of its being come will be the first blast of the trumpet, which they believe will be sounded three times. The first they call the *blast of consignment*; at the hearing of which all creatures in heaven and earth shall be struck with terror, except those whom God shall please to exempt from it. The effects attributed to this first found of the trumpet are very wonderful: for they say the earth will be shaken, and not only all buildings, but the very mountains levelled; that the heavens shall melt, the sun be darkened, the stars fall, on the death of the angels, who, as some imagine, hold them suspended between heaven and earth; and the sea shall be troubled and dried up, or, according to others, turned into flames, the sun, moon, and stars being thrown into it: the Koran, to express the greatness of the terror of that day, adds, that women who give suck shall abandon the care of their infants, and even the she camels which have gone 10 months with young (a most valuable part of the substance of that nation) shall be utterly neglected. A farther effect of this blast will be that concurrence of beats mentioned in the Koran, though some doubt whether it be to precede the resurrection or not. They who suppose it will precede, think that all kinds of animals, forgetting their respective natural fierceness and timidity, will run together into one place, being terrified by the sound of the trumpet and the sudden shock of nature.

The Mahometans believe that this first blast will be followed by a second, which they call the *blast of examination*; by which all creatures both in heaven and earth shall die or be annihilated, except those which God shall please to exempt from the common fate; and this, they say, shall happen in the twinkling of an eye, nay in an instant; nothing surviving except God alone, with paradise and hell, and the inhabitants of those two places, and the throne of glory. The last who shall die will be the angel of death.

Forty years after this will be heard the *blast of resurrection*, when the trumpet shall be sounded the third time by Israfil, who, together with Gabriel and Michael, will be previously restored to life, and, standing on the rock of the temple of Jerusalem, shall, at God's command, call together all the dry and rotten bones, and other dispersed parts of the bodies, and the very

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hairs to judgement. This angel having, by the divine order, set the trumpet to his mouth, and called together all the souls from all parts, will throw them into his trumpet, from whence, on his giving the last found, at the command of God, they will fly forth like bees, and fill the whole space between heaven and earth, and then repair to their respective bodies, which the opening earth will suffer to arise; and the first who shall so arise, according to a tradition of Mahomet, will be himself. For this birth the earth will be prepared by the rain above mentioned, which is to fall continually for 40 years, and will resemble the seed of a man, and be supplied from the water under the throne of God, which is called *living water*; by the efficacy and virtue of which the dead bodies shall spring forth from their graves as they did in their mother's womb, or as corn sprouts forth by common rain, till they become perfect; after which breath will be breathed into them, and they will sleep in their sepulchres till they are raised to life at the last trumpet.

When those who have risen shall have waited the limited time, the Mahometans believe God will at length appear to judge them; Mahomet undertaking the office of intercessor, after it shall have been declined by Adam, Noah, Abraham, and Jesus, who shall beg deliverance only for their own souls. They say, that on this solemn occasion God will come in the clouds surrounded by angels, and will produce the books wherein the actions of every person are recorded by their guardian angels, and will command the prophets to bear witness against those to whom they have been respectively sent. Then every one will be examined concerning all his words and actions uttered and done by him in this life; not as if God needed any information in these respects, but to oblige the person to make public confession and acknowledgment of God's justice. The particulars, of which they shall give an account, as Mahomet himself enumerated them, are, of their time, how they spent it; of their wealth, by what means they acquired it, and how they employed it; of their bodies, wherein they exercised them; of their knowledge and learning, what use they made of them. To the questions we have mentioned each person shall answer, and make his defence in the best manner he can, endeavouring to excuse himself by casting the blame of his evil deeds on others; so that a dispute shall arise even between the soul and the body, to which of them their guilt ought to be imputed: The soul saying, *O Lord, my body I received from thee; for thou createst me without a hand to lay hold with, a foot to walk with, an eye to see with, or an understanding to apprehend with, till I came and entered into this body; therefore punish it eternally, but deliver me.* The body, on the other side, will make this apology: *O Lord, thou createst me like a stock of wood, having neither hand that I could lay hold with, nor foot that I could walk with, till this soul, like a ray of light, entered into me, and my tongue began to speak, my eye to see, and my foot to walk; therefore punish it eternally, but deliver me.* But God will propound to them the following parable of the blind man and the lame man, which, as well as the preceding dispute, was borrowed by the Mahometans from the Jews. A certain king, having a pleasant garden, in which were ripe fruits, let two persons to keep it, one of whom was blind, and the

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other lame; the former not being able to see the fruit, nor the latter to gather it: the lame man, however, seeing the fruit, persuaded the blind man to take him upon his shoulders, and by that means he easily gathered the fruit, which they divided between them. The lord of the garden coming some time after, and inquiring after his fruit, each began to excuse himself: the blind man said he had no eyes to see with; and the lame man, that he had no feet to approach the trees. But the king, ordering the lame man to be set on the blind, passed sentence on and punished them both. And in the same manner will God deal with the body and the soul. As these apologies will not avail on that day, so it will be in vain for any one to deny his evil actions; since men and angels, and his own members, nay, the very earth itself, will be ready to bear witness against him.

At this examination, they also believe, that each person will have the book wherein all the actions of his life are written delivered to him: which books the righteous will receive into their right hand, and read with great pleasure and satisfaction; but the ungodly will be obliged to take them, against their wills, in their left, which will be bound behind their backs, their right hand being tied up to their necks.

To show the exact justice which will be observed on this great day of trial, the next thing they describe is the balance, wherein all things shall be weighed. They say it will be held by Gabriel; and that it is of so vast a size, that its two scales, one of which hangs over paradise, and the other over hell, are capacious enough to contain both heaven and hell. Though some are willing to understand what is said in the Koran concerning this balance allegorically, and only as a figurative representation of God's equity; yet the more ancient and orthodox opinion is, that they are to be taken literally; and since words and actions, being mere accidents, are not capable of being themselves weighed, they say that the books wherein they are written will be thrown into the scales, and according as those wherein the good or evil actions are recorded shall preponderate, sentence will be given: those whose balances laden with good works shall be heavy, will be saved; but those whose balances are light, will be condemned. Nor will any one have cause to complain that God suffers any good action to pass unrewarded, because the wicked for the good they do have their reward in this life, and therefore can expect no favour in the next.

This examination being past, and every one's works weighed in a just balance, that mutual retaliation will follow, according to which every creature will take vengeance one of another, or have satisfaction made them for the injuries which they have suffered. And, since there will then be no other way of returning like for like, the manner of giving this satisfaction will be by taking away a proportional part of the good works of him who offered the injury, and adding it to those of him who suffered it. Which being done, if the angels (by whose ministry this is to be performed) say, *Lord, we have given to every one his due, and there remaineth of this person's good works so much as equalleth the weight of an ant,* God will, of his mercy, cause it be doubled unto him, that he may be admitted into paradise; but if, on the contrary, his good works be exhausted,



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hausted, and there remain evil works only, and there be any who have not yet received satisfaction from him, God will order that an equal weight of their sins be added unto his, that he may be punished for them in their stead, and he will be sent to hell laden with both. This will be the method of God's dealing with mankind. As to brutes, after they shall have likewise taken vengeance of one another, he will command them to be changed into dust; wicked men being reserved to more grievous punishment, so that they shall cry out, on hearing this sentence passed on the brutes, *Would to God that we were dust also!* As to the genii, many Mahometans are of opinion, that such of them as are true believers, will undergo the same fate as the irrational animals, and have no other reward than the favour of being converted into dust: and for this they quote the authority of their prophet.

The trials being over, and the assembly dissolved, the Mahometans hold, that those who are to be admitted into paradise will take the right-hand way, and those who are destined to hell-fire will take the left; but both of them must first pass the bridge called in Arabic *al Sirat*, which they say is laid over the midst of hell, and describe to be finer than a hair, and sharper than the edge of a sword; so that it seems very difficult to conceive how any one shall be able to stand upon it; for which reason, most of the sect of the Motazalites reject it as a fable; though the orthodox think it a sufficient proof of the truth of this article, that it was seriously affirmed by him who never asserted a falsehood, meaning their prophet: who, to add to the difficulty of the passage, has likewise declared, that this bridge is beset on each side with briars and hooked thorns: which will however be no impediment to the good; for they shall pass with wonderful ease and swiftness, like lightning, or the wind, Mahomet and his Moslems leading the way; whereas the wicked, what with the slipperiness and extreme narrowness of the path, the entangling of the thorns, and the extinction of the light which directed the former to paradise, will soon miss their footing, and fall down headlong into hell, which is gaping beneath them.

As to the punishment of the wicked, the Mahometans are taught, that hell is divided into seven stories or apartments, one below another, designed for the reception of as many distinct classes of the damned.

The first, which they call *Jehennam*, they say, will be the receptacle of those who acknowledge one God, that is, the wicked Mahometans; who, after having there been punished according to their demerits, will at length be released. The second, named *Ladha*, they assign to the Jews; the third, named *al Hotama*, to the Christians; the fourth, named *al Sair*, to the Sabians; the fifth, named *Sakar*, to the Magians; the sixth, named *al Jahim*, to the idolaters; and the seventh, which is the lowest and worst of all, and is called *al Hawyat*, to the hypocrites, or those who outwardly professed some religion, but in their hearts were of none. Over each of these apartments they believe there will be set a guard of angels, 19 in number; to whom the damned will confess the just judgement of God, and beg them to intercede with him for some alleviation of their pain, or that they may be delivered by being annihilated.

Mahomet has, in his Koran and traditions, been

very exact in describing the various torments of hell, which, according to him, the wicked will suffer both from intense heat and excessive cold. We shall, however, enter into no detail of them here; but only observe, that the degrees of these pains will also vary in proportion to the crimes of the sufferer, and the apartment he is condemned to; and that he who is punished the most lightly of all will be shod with shoes of fire, the fervour of which will cause his skull to boil like a cauldron. The condition of these unhappy wretches, as the same prophet teaches, cannot be properly called either *life* or *death*; and their misery will be greatly increased by their despair of being ever delivered from that place, since, according to that frequent expression in the Koran, *they must remain therein for ever*. It must be remarked, however, that the infidels alone will be liable to eternity of damnation; for the Moslems, or those who have embraced the true religion, and have been guilty of heinous sins, will be delivered thence after they shall have expiated their crimes by their sufferings. The time which these believers shall be detained there, according to a tradition handed down from their prophet, will not be less than 900 years, nor more than 7000. And, as to the manner of their delivery, they say that they shall be distinguished by the marks of prostration on those parts of their bodies with which they used to touch the ground in prayer, and over which the fire will therefore have no power; and that, being known by this characteristic, they will be released by the mercy of God, at the intercession of Mahomet and the blessed: whereupon those who shall have been dead, will be restored to life, as has been said; and those whose bodies shall have contracted any foulness or filth from the flames and smoke of hell, will be immersed in one of the rivers of paradise, called the *river of life*, which will wash them whiter than pearls.

The righteous, as the Mahometans are taught to believe, having surmounted the difficulties, and passed the sharp bridge above mentioned, before they enter paradise, will be refreshed by drinking at the *pond* of their prophet, who describes it to be an exact square, of a month's journey in compass; its water, which is supplied by two pipes from *Al Cawthar*, one of the rivers of paradise, being whiter than milk or silver, and more odoriferous than musk, with as many cups set around it as there are stars in the firmament; of which water whoever drinks will thirst no more for ever. This is the first taste which the blessed will have of their future and now near-approaching felicity.

Though paradise be so very frequently mentioned in the Koran, yet it is a dispute among the Mahometans whether it be already created, or to be created hereafter; the Motazalites and some other sectaries asserting, that there is not at present any such place in nature, and that the paradise which the righteous will inhabit in the next life will be different from that from which Adam was expelled. However, the orthodox profess the contrary, maintaining that it was created even before the world, and describe it, from their prophet's traditions, in the following manner:

They say it is situated above the seven heavens (or in the seventh heaven), and next under the throne of God; and, to express the amenity of the place, tell us, that the earth of it is of the finest wheat flour, or

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of the purest musk, or, as others will have it, of saffron: that its stones are pearls and jacinths, the walls of its buildings enriched with gold and silver; and that the trunks of all its trees are of gold, among which the most remarkable is the tree call *Tuba*, or the tree of happiness. Concerning this tree, they fable, that it stands in the palace of Mahomet, though a branch of it will reach to the house of every true believer; that it will be laden with pomegranates, grapes, dates, and other fruits, of surprising bigness, and of tastes unknown to mortals. So that if a man desire to eat of any particular kind of fruit, it will immediately be presented him; or, if he choose flesh, birds ready dressed will be set before him, according to his wish. They add, that the boughs of this tree will spontaneously bend down to the hand of the person who would gather of its fruits, and that it will supply the blessed not only with food, but also with silken garments, and beasts to ride on ready saddled and bridled, and adorned with rich trappings, which will burst forth from its fruits; and that this tree is so large, that a person, mounted on the fleetest horse, would not be able to gallop from one end of its shade to the other in 100 years.

As plenty of water is one of the greatest additions to the pleasantness of any place, the Koran often speaks of the rivers of paradise as a principal ornament thereof: some of these rivers, they say, flow with water, some with milk, some with wine, and others with honey; all taking their rise from the root of the tree *Tuba*.

But all these glories will be eclipsed by the resplendent and ravishing girls of paradise, called from their large black eyes *Hur al oyun*, the enjoyment of whose company will be a principal felicity of the faithful. These, they say, are created, not of clay, as mortal women are, but of pure musk; being, as their prophet often affirms in his Koran, free from all natural impurities, defects, and inconveniences incident to the sex, of the strictest modesty, and secluded from public view in pavilions of hollow pearls, so large, that as some traditions have it, one of them will be no less than four parasangs (or, as others say, 60 miles) long, and as many broad.

The name which the Mahometans usually give to this happy mansion, is *al Jannat*, or "the garden;" and sometimes they call it, with an addition, *Jannat al Ferdaws*, "the garden of paradise;" *Jannat Aden*, "the garden of Eden," (though they generally interpret the word *Eden*, not according to its acceptation in Hebrew, but according to its meaning in their own tongue, wherein it signifies "a settled or perpetual habitation;") *Jannat al Mawa*, "the garden of abode;" *Jannat al Naim*, "the garden of pleasure;" and the like: by which several appellations some understand so many different gardens, or at least places of different degrees of felicity (for they reckon no less than 100 such in all), the very meanest whereof will afford its inhabitants so many pleasures and delights, that one would conclude they must even sink under them, had not Mahomet declared, that, in order to qualify the blessed for a full enjoyment of them, God will give to every one the abilities of 100 men.

6. God's absolute decree and predestination both of

good and evil. The orthodox doctrine is, that whatever hath or shall come to pass in this world, whether it be good, or whether it be bad, proceedeth entirely from the divine will, and is irrevocably fixed and recorded from all eternity in the preserved table: God having secretly predetermined not only the adverse and prosperous fortune of every person in this world, in the most minute particulars, but also his faith or infidelity, his obedience or disobedience, and consequently his everlasting happiness or misery after death; which fate or predestination it is not possible by any foresight or wisdom to avoid.

Of this doctrine Mahomet makes great use in his Koran for the advancement of his designs; encouraging his followers to fight without fear, and even desperately, for the propagation of their faith, by representing to them, that all their caution could not avert their inevitable destiny, or prolong their lives for a moment; and deterring them from disobeying or rejecting him as an impostor, by setting before them the danger they might thereby incur of being, by the just judgement of God, abandoned to seduction, hardness of heart, and a reprobate mind, as a punishment for their obstinacy.

II. *Religious practice.* 1. The first point is *prayer*, under which are also comprehended those legal washings or purifications which are necessary preparations thereto.

Of these purifications there are two degrees, one called *ghoff*, being a total immersion or bathing of the body in water; and the other called *wodu* (by the Persians, *abdest*), which is the washing of their faces, hands, and feet, after a certain manner. The first is required in some extraordinary cases only, as after having lain with a woman, or being polluted by emission of seed, or by approaching a dead body; women also being obliged to it after their courses or childbirth. The latter is the ordinary ablution in common cases, and before prayer, and must necessarily be used by every person before he can enter upon that duty. It is performed with certain formal ceremonies, which have been described by some writers, but much easier apprehended by seeing them done, than by the best description.

That his followers might be more punctual in this duty, Mahomet is said to have declared, that *the practice of religion is founded on cleanliness*, which is the *one half of the faith*, and the *key of prayer*, without which it will not be heard by God. That these expressions may be the better understood, Al Ghazali reckons four degrees of purification; of which the first is the cleansing of the body from all pollution, filth, and excrements; the second, the cleansing of the members of the body from all wickedness and unjust actions; the third, the cleansing the heart from all blameable inclinations and odious vices; and the fourth, the purging a man's secret thoughts from all affections which may divert their attendance on God; adding, that the body is but as the outward shell, in respect to the heart, which is as the kernel.

Circumcision, though it be not so much as once mentioned in the Koran, is yet held by the Mahometans to be an ancient divine institution, confirmed by the religion of Islam, and though not so absolutely necessary but that it may be dispensed with in some cases,

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cafes, yet highly proper and expedient. The Arabs ufed this rite for many ages before Mahomet, having probably learned it from Ithmael, though not only his descendants, but the Hamyarites and other tribes practifed the fame. The Ithmaelites, we are told, ufed to circumcife their children, not on the eighth day, as is the custom of the Jews, but when about 12 or 13 years old, at which age their father underwent that operation; and the Mahometans imitate them fo far as not to circumcife children before they may be able at leaft diftinctly to pronounce that profefion of their faith, *There is no God but GOD, Mahomet is the apofle of GOD*; but pitch on what age they please for the purpose, between 6 and 16 or thereabouts.

Prayer was by Mahomet thought fo neceffary a duty, that he ufed to call it *the pillar of religion and the key of paradife*; and when the Thakiites, who dwelt at Tayef, fending, in the ninth year of the Hegira, to make their fubmiffion to the prophet, after the keeping of their favourite idol had been denied them, begged at leaft that they might be difpenfed with as to their faying of their appointed prayers, he answered, *That there could be no good in that religion wherein was no prayer*.

That fo important a duty, therefore, might not be neglected, Mahomet obliged his followers to pray five times every 24 hours, at certain ftated times; viz. 1. In the morning before funrife: 2. When noon is paff, and the fun begins to decline from the meridian: 3. In the afternoon, before funfet: 4. In the evening, after funfet, and before the day be fhut in; and, 5. After the day is fhut in, and before the firft watch of the night. For this inftitution he pretended to have received the divine command from the throne of God himfelf, when he took his night-journey to heaven; and the obferving of the ftated times of prayer is frequently infifted on in the Koran, though they be not particularly prefcribed therein. Accordingly, at the aforefaid times, of which public notice is given by the Muedhdhins, or Criers, from the fteeple of their mosques (for they ufe no bells), every confcientious Moflem prepares himfelf for prayer, which he performs either in the mosque or any other place, provided it be clean, after a prefcribed form, and with a certain number of praifes or ejaculations (which the more fcrupulous count by a ftirng of beads), and ufing certain poftures of worfhip; all which have been particularly fet down and defcribed, though with fome few miftakes, by other writers, and ought not to be abridged, unlefs in fome fpecial cafes, as on a journey, on preparing for battle, &c.

For the regular performance of the duty of prayer among the Mahometans, befides the particulars above mentioned, it is alfo requifite that they turn their faces, while they pray, towards the temple of Mecca; the quarter where the fame is fituated, being, for that reafon, pointed out within their mosques by a niche, which they call *al Mehrab*; and without, by the fituation of the doors opening into the galleries of the fteeple: there are alfo tables calculated for the ready finding out their Keblah, or part towards which they ought to pray, in places where they have no other direktion.

2. *Alms* are of two forts, *legal* and *voluntary*. The *legal alms* are of indifpenfable obligation, being com-

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manded by the law, which directs and determines both the portion which is to be given, and of what things it ought to be given; but the *voluntary alms* are left to every one's liberty, to give more or lefs, as he fhall fee fit. The former kind of alms fome think to be properly called *zacad*, and the latter *fadakat*; though this name be alfo frequently given to the legal alms. They are called *zacad*, either becaufe they *increase* a man's ftore by drawing down a bleffing thereon, and produce in his foul the virtue of liberality; or becaufe they *purify* the remaining part of one's fubftance from pollution, and the foul from the filth of avarice; and *fadakat*, becaufe they are a proof of a man's fincerity in the worfhip of God. Some writers have called the legal alms *tithe*; but improperly, fince in fome cafes they fall fhort, and in others exceed that proportion.

3. *Fafting* is a duty of fo great moment, that Mahomet ufed to fay it was *the gate of religion* and that *the odour of the mouth of him who fafteth is more grateful to God than that of mufe*; and Al Ghazali reckons fafting *one-fourth part of the faith*. According to the Mahometan divines, there are three degrees of fafting: 1. The reftaining the belly and other parts of the body from fatisfying their luft: 2. The reftaining the ears, eyes, tongue, hands, feet, and other members, from fin; and, 3. The fafting of the heart from worldly cares, and reftaining the thought from every thing befides God.

The Mahometans are obliged, by the exprefs command of the Koran, to faft the whole month of Ramadan from the time the new moon firft appears, till the appearance of the next new moon; during which time they muft abftain from eating, drinking, and women, from daybreak till night or funfet. And this injunktion they obferve fo ftirctly, that, while they faft, they fuffer nothing to enter their mouths, or other parts of their body, efteeming the faft broken and null, if they fmell perfumes, take a clyfter or injektion, bathe, or even purpofely fwallow their fpittle; fome being fo cautious, that they will not open their mouths to fpeak left they fhould breathe the air too freely: the faft is alfo deemed void, if a man kifs or touch a woman, or if he vomit defignedly. But after funfet they are allowed to refrefh themfelves, and to eat and drink, and enjoy the company of their wives till daybreak; though the more rigid begin the faft again at midnight. This faft is extremely rigorous and mortifying when the month of Ramadan happens to fall in fummer (for the Arabian year being lunar, each month runs through all the different feafons in the courfe of 33 years), the length and heat of the days making the obfervance of it much more difficult and uneafy than in winter.

The reafon given why the month of Ramadan was pitched on for this purpose is, that on that month the Koran was fent down from heaven. Some pretend, that Abraham, Mofes, and Jefus, received their refpektive revelations in the fame month.

4. The pilgrimage to Mecca is fo neceffary a point of praftice, that, according to a tradition of Mahomet, he who dies without performing it may as well die a Jew or a Chriftian; and the fame is exprefsly commanded in the Koran.

The temple of Mecca ftands in the midft of the city, and is honoured with the title of *Masjad al elharam*, i. e. *the facred or inviolable temple*. What is principally



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ly revered in this place, and gives sanctity to the whole, is a square stone building, called the CAABA; (see that article).

To this temple every Mahometan, who has health and means sufficient, ought, once at least in his life, to go on pilgrimage; nor are women excused from the performance of this duty. The pilgrims meet at different places near Mecca, according to the different parts from whence they come, during the months of Shawal and Dhu'lkaada; being obliged to be there by the beginning of Dhu'lhajja; which month, as its name imports, is peculiarly set apart for the celebration of this solemnity.

At the place above mentioned the pilgrims properly commence such; when the men put on the Ibram or sacred habit, which consists only of two woollen wrappers, one wrapped about their middle to cover their privities, and the other thrown over their shoulders, having their heads bare, and a kind of slippers which cover neither the heel nor the instep, and so enter the sacred territory in their way to Mecca. While they have this habit on, they must neither hunt nor fowl, (though they are allowed to fish); which precept is so punctually observed, that they will not kill even a louse or flea if they find them on their bodies: there are some noxious animals, however, which they have permission to kill during the pilgrimage, as kites, ravens, scorpions, mice, and dogs given to bite. During the pilgrimage, it behoves a man to have a constant guard over his words and actions; to avoid all quarrelling or ill language, all converse with women, and all obscene discourse; and to apply his whole attention to the good work he is engaged in.

The pilgrims, being arrived at Mecca, immediately visit the temple; and then enter on the performance of the prescribed ceremonies, which consist chiefly in going in procession round the Caaba, in running between the mounts Safa and Merwa, in making the station on Mount Arafat, and slaying the victims, and shaving their heads in the valley of Mina.

In compassing the Caaba, which they do seven times, beginning at the corner where the black stone is fixed, they use a short quick pace the three first times they go round it, and a grave ordinary pace the four last; which, it is said, was ordered by Mahomet, that his followers might show themselves strong and active to cut off the hopes of the infidels, who gave out that the immoderate heats of Medina had rendered them weak. But the aforesaid quick pace they are not obliged to use every time they perform this piece of devotion, but only at some particular times. So often as they pass by the black stone, they either kiss it, or touch it with their hand, and kiss that.

The running between Safa and Merwa is also performed seven times, partly with a slow pace and partly running: for they walk gravely till they come to a place between two pillars; and there they run, and afterwards walk again; sometimes looking back, and sometimes stooping, like one who had lost something, to prevent Hagar seeking water for her son: for the ceremony is said to be as ancient as her time.

On the ninth of Dhu'lhajs, after morning prayer, the pilgrims leave the valley of Mina, whither they come the day before; and proceed in a tumultuous and rushing manner to Mount Arafat, where they stay to

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perform their devotions till sunset: then they go to Mozdalifa, an oratory between Arafat and Mina; and there spend the night in prayer and reading the Koran. The next morning by daybreak they visit *al Maher al Karam*, or "the sacred monument;" and, departing thence before sunrise, haste by Batn Mohalfer to the valley of Mina, where they throw seven stones at three marks or pillars, in imitation of Abraham, who, meeting the devil in that place, and being by him disturbed in his devotions, or tempted to disobedience when he was going to sacrifice his son, was commanded by God to drive him away by throwing stones at him; though others pretend this rite to be as old as Adam, and by the same means.

This ceremony being over, on the same day, the tenth of Dhu'lhajja, the pilgrims slay their victims in the said valley of Mina; of which they and their friends eat part, and the rest is given to the poor. These victims must be either sheep, goats, kine, or camels: males, if of either of the two former kinds; and females if of either of the latter; and of a fit age. The sacrifices being over, they shave their heads and cut their nails, burying them in the same place; after which the pilgrimage is looked on as completed; though they again visit the Caaba, to take their leave of that sacred building.

The rapid success which attended the propagation of this new religion was owing to causes that are plain and evident, and must remove, or rather prevent, our surprize, when they are attentively considered. The terror of Mahomet's arms, and the repeated victories which were gained by him and his successors, were, no doubt, the irresistible arguments that persuaded such multitudes to embrace his religion and submit to his dominion. Besides, his law was artfully and marvellously adapted to the corrupt nature of man; and, in a more particular manner, to the manners and opinions of the eastern nations, and the vices to which they were naturally addicted: for the articles of faith which it proposed were few in number, and extremely simple; and the duties it required were neither many nor difficult, nor such as were incompatible with the empire of appetites and passions. It is to be observed farther, that the gross ignorance, under which the Arabians, Syrians, Persians, and the greatest part of the eastern nations, laboured at this time, rendered man an easy prey to the artifice and eloquence of this bold adventurer. To these causes of the progress of Mahometanism, we may add the bitter dissensions and cruel animosities that reigned among the Christian sects, particularly the Greeks, Nestorians, Eutychemians, and Monophysites; dissensions that filled a great part of the east with carnage, assassinations, and such detestable enormities as rendered the very name of Christianity odious to many. We might add here, that the Monophysites and Nestorians, full of resentment against the Greeks, from whom they had suffered the bitterest and most injurious treatment, assisted the Arabians in the conquest of several provinces, into which, of consequence, the religion of Mahomet was afterwards introduced. Other causes of the sudden progress of that religion will naturally occur to such as consider attentively its spirit and genius, and the state of the world at this time.



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Mahwah.

MAHOMETANS, those who believe in the religion and divine mission of Mahomet. See MAHOMET, MAHOMETANISM, and ALGORAN.

MAHRATTA. See MARHATTA.

MAHWAH, or MAWEE, in *Botany*; an East Indian tree, so called by the natives of Bahar and the neighbouring countries, but of which the Sanscrit name is *Madhuca* or *Madhudruma*. According to Lieut. C. Hamilton, by whom a very particular account of this tree is given in the *Asiatic Researches*\*, it is of the class of the polyandria-monogynia of Linnæus, but of a genus not described by him.

\* Vol. I.  
art. xiv.

The tree, when full grown, is about the size of a common mango tree, with a bushy head and oval leaves a little pointed; its roots spreading horizontally, are sunk but little in the earth; the trunk, which is often of a considerable thickness, rises seldom to any great height, without giving off branches; it is, however, not uncommon to see it shoot up clear to the length of eight or ten feet: the wood itself is moderately hard, fine grained, and of a reddish colour. By incision the tree affords a resinous gum from the bark.

The flowers are of a nature very extraordinary, "differing essentially (says Mr Hamilton) from those of any other plant with which I am acquainted, as they have not, in any respect, the usual appearance of such, but rather resemble *berries*; and I, like many others, had long conceived them to be the fruit of the Mahwah." The tree drops its leaves in the month of February, and early in March these flowers begin to come out in clusters of thirty, forty, or fifty, from the extremity of every small branch; and, from this period till the latter end of April, as the flowers come to maturity (for they never open or expand), they continue falling off, with their antheræ, in the mornings, a little after sunrise; when they are gathered; and afterwards dried by an exposure of a few days in the sun: when thus prepared, they very much resemble a dried grape, both in taste and flavour. Immediately after the flowers drop off, fresh shoots are made for the new leaves, which soon make their appearance, coming presently to their full growth.

The fruit (*properly* so called) is of two sorts in shape; the one resembling a small walnut, the other somewhat larger and pointed: it is ripe towards the middle of May; and continues dripping from the tree till the whole fall, which is generally about the beginning or towards the middle of June. The outer covering, or *pericarpium*, which is of a soft texture, commonly bursts in the fall, so that the seeds are very easily squeezed out of it: the seeds are somewhat of the shape, but longer than an olive. These seeds are replete with a thick oil, of the consistence of butter or *ghee*, which is obtained by expression.

From this description it may easily be conceived, that the Mahwah tree and its productions are of singular and general use, especially in those dry and barren countries, which, from the nature of their situation, are not so well calculated for producing in plenty or perfection the other necessaries of life.

The corolla or flowers, after being dried as before described, are eaten by the natives raw or dressed with their *curries*; and, when even simply boiled with rice, they afford a strengthening and wholesome nourish-

ment. They are indeed, our author tells us, often applied to a less laudable purpose; for being fermented, they yield by distillation a strong spirit, which the people here sell so very cheap, that for one *piece* (about a halfpenny) may be purchased no less than a *cutcha-seer* (above a pint English) with which any man may get completely drunk. These flowers make an article of trade; being exported from this country to Patna and elsewhere in no inconsiderable quantities.

The oil yielded by the fruit, as before mentioned, resembles ghee so much, that, being cheaper, the natives often mix it with that commodity. They use it the same as ghee in their victuals, and in the composition of some sorts of sweetmeats; and burn it in their lamps. It is also regarded as a salutary remedy, applied exteriorly to wounds and all cutaneous eruptions. It is at first of the consistence of common oil, but soon coagulates: after being kept for some time, it acquires a bitterish taste and rancid smell, which renders it somewhat less agreeable as an article of food: but this is an inconvenience which, by the oil being properly clarified and prepared at first, might be perhaps avoided. This oil is also exported both in its adulterated and original state to Patna and other parts of the low country. The gum has not been applied to any use: but might be collected in large quantities in the months of March and April, about the time the flowers come out.

MAIA, in fabulous history, the daughter of Atlas and Pleione. She was the mother of Mercury by Jupiter. She was one of the Pleiades, the most luminous of the seven sisters; (see PLEIADES). Also, a surname of Cybele.

MAIDEN, an instrument for beheading criminals.

Of the use and form of this instrument Mr Pennant gives the following account: "It seems to have been confined to the limits of the forest of Hardwick, or the 18 towns and hamlets within its precincts. The time when this custom took place is unknown; whether Earl Warren, lord of this forest, might have established it among the sanguinary laws then in use against the invaders of the hunting rights, or whether it might not take place after the woollen manufactures at Halifax began to gain strength, is uncertain. The last is very probable; for the wild country around the town was inhabited by a lawless set, whose depredations on the cloth-tenters might soon stifle the efforts of infant industry. For the protection of trade, and for the greater terror of offenders by speedy execution, this custom seems to have been established, so as at last to receive the force of law, which was, 'That if a felon be taken within the liberty of the forest of Hardwick, with goods stolen out, or within the said precincts, either hand-habend, back-berand, or confession'd, to the value of thirteen pence halfpenny, he shall, after three market days or meeting-days within the town of Halifax, next after such his apprehension, and being condemned, be taken to the gibbet, and there have his head cut from his body.'"

"The offender had always a fair trial; for as soon as he was taken, he was brought to the lord's bailiff at Halifax: he was then exposed on the three markets (which here were held thrice in a week), placed in a stocks, with the goods stolen on his back, or, if the theft was of the cattle kind, they were placed by him; and this was done both to strike terror into others, and

Mahwah,  
Maiden.



Maiden  
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head.

and to produce new informations against him. The bailiff then summoned four freeholders of each town within the forest to form a jury. The felon and profecutors were brought face to face; and the goods, the cow or horle, or whatsoever was stolen, produced. If he was found guilty, he was remanded to prison, had a week's time allowed for preparation, and then was conveyed to this spot, where his head was struck off by this machine. I should have premised, that if the criminal, either after apprehension, or in the way to execution, could escape out of the limits of the forest (part being close to the town), the bailiff had no farther power over him; but if he should be caught within the precincts at any time after, he was immediately executed on his former sentence.

"This privilege was very freely used during the reign of Elizabeth: the records before that time were lost. Twenty-five suffered in her reign, and at least 12 from 1623 to 1650; after which I believe the privilege was no more exerted.

"This machine of death is now destroyed; but I saw one of the same kind in a room under the parliament house at Edinburgh, where it was introduced by the regent Morton, who took a model of it as he passed through Halifax, and at length suffered by it himself. It is in form of a painter's easel, and about ten feet high: at four feet from the bottom is a cross bar on which the felon lays his head, which is kept down by another placed above. In the inner edges of the frame are grooves; in these is placed a sharp axe, with a vast weight of lead, supported at the very summit with a peg: to that peg is fastened a cord, which the executioner cutting, the axe falls, and does the affair effectually, without suffering the unhappy criminal to undergo a repetition of strokes, as has been the case in the common method. I must add, that if the sufferer is condemned for stealing a horle or a cow, the string is tied to the beat, which, on being whipped, pulls out the peg, and becomes the executioner." This apparatus is now in possession of the Scottish Antiquarian Society.

MAIDEN is also the name of a machine first used in Yorkshire, and since introduced into other places, for washing linen; consisting of a tub 19 inches high, and 27 in diameter at the top, in which the linen is put, with hot water and soap, to which is adapted a cover, fitting it very closely, and fastened to the tub by two wedges; through a hole in the middle of the cover passes an upright piece of wood, kept at a proper height by a peg above, and furnished with two handles, by which it is turned backward and forward: to the lower end of this upright piece is fastened a round piece of wood, in which are fixed several pieces, like cogs of a wheel. The operation of this machine is to make the linen pass and repass quick through the water.

*MAIDEN-Rents*, in our old writers, a noble paid by the tenants of some manors on their marriage. This was laid to be given to the lord for his omitting the custom of *marcheta*, whereby he was to have the first night's lodging with his tenant's wife; but it seems more probably to have been a fine for a license to marry a daughter.

MAIDENHEAD, a town of Berks, 26 miles from London, with a stone bridge over the Thames. It is

governed by a high steward, a mayor, a steward, and 10 aldermen, out of which last two bridgemaillers are chosen every year. Here is a gaol both for debtors and felons. The town stands partly in the parish of Bray and partly in that of Cookham; and here is a chapel peculiar to the corporation, the minister whereof is chosen by the inhabitants, and not obliged to attend the bishop's visitation. Here are several alms-houses and charities. This town, now so considerable, did not begin to flourish till, by the building of its bridge, travellers were brought this way, who before used a ferry at that called *Babham's End*, two miles north of it. The barge pier bridge is maintained by the corporation, for which they are allowed the tolls both over and under it. The bridge-pier divides Berks from Bucks. There is a great trade here in malt, meal, and timber, which they carry in their barges to London. As this is the great thoroughfare from thence to Bath, Britol, and other fourth-west parts of England, the adjacent wood or thicket has been noted for many robberies. The market here is on Wednesdays; there are three fairs; and here are frequent horse races.

MAIDSTONE, a town of Kent, in England, 36 miles from London, seated on the river Medway, a branch of which runs through it. It is a corporation, and sends two members to parliament. Its chief trade, besides linen-thread, which is made in great perfection, is in hops; of which there are great plenty of plantations about the town, as well as orchards of cherries. The tide flows quite up to the town, and brings up barges, &c. of 50 or 60 tons. It has a fine stone bridge. One of the public gaols for the county is kept in this town; and the custody of weights and measures, renewed by the standard of King Henry VII. was committed to it by parliament, as being in the centre of Kent: for which reason the knights of the shire are always elected, and the courts of justice always held here, and generally the assizes. The archbishop of Canterbury is constant parson of this parish, which is his peculiar, and served by his curate. Here are four charity-schools, in which are above 100 boys and girls, who are visited once a-week and catechized by the minister. This is such a plentiful country, and the lands hereabouts are so rich, that London is supplied with more commodities from hence than from any market-town in England; particularly with the large bullocks that come from the Weald of Kent, which begins but six miles off; with timber, wheat, and great quantities of hops, apples, and cherries; with a sort of paving-stone, eight or ten inches square, that is exceeding durable; and with the fine white sand for glass-houses and stationers. There are 50 many gentlemen's seats within 10 miles, that it is rare to find a town of so much trade and business, so full of gentry and good company.

MAIENNE, a considerable, handsome, and populous town in France, formerly having the title of a duchy; seated on a river of the same name, in W. Long. o. 35. N. Lat. 48. 18.

MAIGNAN, EMANUEL, a religious Minion, and a philosopher of considerable eminence, was born of an ancient and noble family at Thoulouise in 1601. Like the famous Pascal, he became a complete mathematician without the assistance of a teacher; and filled the professor's chair at Rome in 1636, where, at the

Maidstone  
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Maignan.



Majesty,  
Mail.

expençe of Cardinal Spada, he published his book *De Perspectiva Horaria*. He returned to Thoulouse in 1650, and was created provincial: the king who in 1660 entertained himself with the machines and curiosities in his cell, made him offers by Cardinal Mazarine, to draw him to Paris; but he humbly desired to spend the remainder of his days in a cloister. He published a course of philosophy, 4 vols 8vo, at Thoulouse; to the second edition of which he added two treatises, one against the vortices of Descartes, and the other on the speaking trumpet invented by Sir Samuel Morland. He is said to have studied even in his sleep, his very dreams being employed in theorems, the demonstrations of which would awaken him with joy. He died in 1676.

MAJESTY, a title given to kings, which frequently serves as a term of distinction. The word seems composed of the two Latin words, *major* "greater," and *status* "state." The emperor is called *Sacred Majesty*, *Imperial Majesty*, and *Cæsarean Majesty*: The king of Hungary is styled *His Apostolic Majesty*. The king of Spain is termed *His most Catholic Majesty*: and the king of Portugal, *His most Faithful Majesty*. The king of France used to be called *His most Christian Majesty*; and when he treated with the emperor, the word *Sacred* was added: He was afterwards called simply, *King of the French*. Bonaparte assumed the title of *Emperor and King of France*.—With respect to other kings, the name of the kingdom is added; as *His Britannic Majesty*, *His Prussian Majesty*, &c. Formerly princes were more sparing in giving titles, and more modest in claiming them: before the reign of Charles V. the king of Spain had only the title of *Highness*; and before that of Henry VIII. the kings of England were only addressed under the titles of *Grace* and *Highness*.

Under the Roman republic, the title *Majesty*, (*majestas*) belonged to the whole body of the people, and to the principal magistrates; so that to diminish or wound the majesty of the commonwealth, was to be wanting in respect to the state or to its ministers. But the power afterwards passing into the hands of a single person, the appellation of *Majesty* was transferred to the emperor and the imperial family. Pliny compliments Trajan on his being contented with the title of *Greatness*; and speaks very invidiously of those who affected that of *Majesty*. And yet this last seems to be the most modest and just title that can be attributed to sovereigns, since it signifies no more than the royalty or sovereign power.

MAII INDUCTIO, an ancient custom for the priest and people of country-villages to go in procession to some adjoining wood on a May-day morning; and return in a kind of triumph, with a May pole, boughs, flowers, garlands, and other tokens of the spring. This May-game, or rejoicing at the coming of the spring, was for a long time observed, and still is in some parts of England; but there was thought to be so much heathen vanity in it, that it was condemned and prohibited within the diocese of Lincoln by the good old Bishop Grosthead.

MAIL (*maille*), a term primarily applied to the meshes or holes in net-work.

Coat of MAIL. See COAT. It is called also a *habergeon*. Anciently they also wore shirts of mail un-

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der the waistcoat, to serve as a defence against swords and poniards. We also read of gloves of mail.

MAIL, or *Mall*, also signifies a round ring of iron; whence the play of pall-mall, from *palla* "a ball," and *maille* "the round ring through which it is to pass."

MAIL, or *Maille*, in our old writers, a small kind of money. Silver halfpence were likewise termed *Mailles*, 9 Henry V. By indenture in the mint, a pound weight of old sterling silver was to be coined into 360 sterlings or pennies, or 720 *mails* or half-pennies, or 1440 farthings. Hence the word *mail* was derived, which is now vulgarly used in Scotland to signify an annual rent.

MAIL, or *Mail*, on ship-board, a square machine composed of a number of rings interwoven net-wise, and used for rubbing off the loose hemp which remains on lines or white cordage after it is made.

MAIL is likewise used for the leather bag wherein letters are carried by the post.

MAIL-Coaches. See COACH.

Action of MAILS and Duties, in Scots Law. See LAW, p. 689, § 20.

MAIL, *Black*. See BLACK-Mail.

MAILLE, JOSEPH-ANNE-MARIE DE MOYRIAC DE, a learned Jesuit, was born in the castle of Maillac in the Bugey, and appointed a missionary to China, whither he went in 1703. At the age of 28 he had acquired so great a skill in the characters, arts, sciences, mythology, and ancient books of the Chinese, as to astonish even the learned. He was greatly beloved and esteemed by the emperor Kham-Hi, who died in 1722. He, together with other missionaries, was employed by that prince to draw a chart of China and Chinese Tartary, which was engraven in France in the year 1732. He drew likewise particular charts of some of the provinces of this vast empire; with which the emperor was so pleased, that he settled the author at his court. The great annals of China were also translated into French by Father Mailla, and his manuscript was transmitted to France in 1737. This work was published in 12 volumes quarto, under the inspection of M. Grosier, and is the first complete history of that extensive empire. The style, which was full of hyperbole and bombast, has been revised by the editor, and the speeches which extended to too great a length, and had too much sameness in them, have been omitted. Father Mailla, after having resided 45 years in China, died at Pekin on the 28th of June 1748, in the 79th year of his age. Kien-Lung the reigning emperor paid the expences of his funeral. He was a man of a lively and gentle character, capable of the most persevering labour and the most unremitting activity.

MAILLET, BENOIT DE, descended from a noble family in Lorraine, was born in 1659, and appointed, at the age of 33, consul general for Egypt. He fulfilled this office for 16 years with great ability, supported the king's authority against the janizaries, and greatly extended the trade of France into that part of Africa. As a recompense for his services, the king bestowed upon him the consulship of Leghorn, which is the first and most considerable consulship in his gift. Being at last appointed in 1715 to visit the

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Maillet,  
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sea-ports in the Levant and on the coast of Barbary, he was so successful in the execution of his commission, that he obtained permission to retire with a considerable pension. He settled at Marseilles; where he died in 1738, in the 79th year of his age. He was a man of a lively imagination, and gentle manners; in society he was very amiable, and he possessed the strictest probity. He was fond of praise, and very anxious about the reputation of genius. During the whole of his life he paid particular attention to the study of natural history; and his principal object was to become acquainted with the origin of our globe. On this important subject he left some curious observations, which have been published in octavo under the title of *Telliamed*, which is the name *de Maillet* written backwards. The editor Abbé Mascrier has given to this work the form of dialogue. An Indian philosopher is introduced as explaining to a French missionary his opinion concerning the nature of the globe, and the origin of mankind; and, which is very incredible, he supposes it to have come out of the waters, and makes an abode uninhabitable by man the birthplace of the human race. His great object is to prove, that all the strata of which this globe is composed, even to the tops of the highest mountains, have come from the bosom of the waters; that they are the work of the sea, which continually retires to allow them gradually to appear. *Telliamed* dedicated his book to the illustrious Cyrano de Bergerac, author of the imaginary "Travels to the sun and moon." In the humorous epistle which is addressed to him, the Indian philosopher informs us that these dialogues are nothing but a collection of dreams and fancies. He cannot be accused of having broken his word; but he may well be reproached with not having written them in the same style with his letter to Cyrano, and with not having displayed equal liveliness and humour. A subject the most extravagant is handled in the gravest manner, and his ridiculous opinion is delivered with all the serious air of a philosopher. Of the six dialogues which compose the work, the four first contain many curious observations truly philosophical and important: in the other two we find nothing but conjectures, fancies, and fables, sometimes amusing, but always absurd. To Maillet we are indebted also for "A Description of Egypt," collected from his memoirs by the editor of *Telliamed*, 1743, 4to, or in 2 vols. 12mo.

MAIM, MAIHEM, or *Mayhem*, in law, a wound by which a person loses the use of a member that might have been a defence to him; as when a bone is broken, a foot, hand, or other member cut off, or an eye put out; though the cutting off an ear or nose, or breaking the hinder-teeth, was formerly held to be no maim. A maim by castration was anciently punished with death, and other maims with loss of member for member; but afterwards they were only punished by fine and imprisonment. It is now enacted by the statute 22 and 23 Car. II. that if any person, from malice aforethought, shall disable any limb or member of any of the king's subjects with an intent to disfigure him, the offender, with his aiders and abettors, shall be guilty of felony without benefit of clergy; though no such attainder shall corrupt the blood, or occasion forfeiture of lands, &c.

MAIMONIDES, MOSES, or MOSES THE SON OF MAIMON, a celebrated rabbi, called by the Jews *the eagle of the doctors*, was born of an illustrious family at Cordova in Spain, in 1131. The early part of his education was undertaken by his father, who afterwards placed him under the tuition of Rabbi Joseph, the son of Megas, a person on whose profound learning he has bestowed the highest praise; and, according to Leo Africanus, he had also among his tutors the learned Arabians Ibn Thophail and Averroes. He is commonly named *Moses Aegyptius*, because he settled in Egypt, where he spent his whole life in quality of physician to the sultan. Here he opened a school, which was soon filled with pupils from all parts, from Alexandria and Damascus especially, whose proficiency under him spread his fame all over the world. He was no less eminent in philosophy, mathematics, and divinity, than in medicine. Casaubon affirms it may be truly said of him, as Pliny of old said of Diodorus Siculus, that "he was the first of his tribe who ceased to be a trifler." It would be tedious to enumerate all the works of Maimonides; some were written originally in Arabic, but are now extant only in Hebrew translations. "Those (says Collier) who desire to learn the doctrine and the canon law contained in the Talmud, may read Maimonides's compendium of it in good Hebrew, in his book entitled *Iad*; wherein they will find great part of the fables and impertinencies in the Talmud entirely discarded. But the *More Nevochim* is the most valued of all his works; designed to explain the obscure words, phrases, metaphors, &c. in scripture, which, when literally interpreted, have either no meaning or appear absurd.

MAIN, an epithet usually applied by sailors to whatever is principal, as opposed to whatever is inferior or secondary. Thus the main land is used in contradistinction to an island or peninsula; and the main mast, the main wale, the main keel, and the main hatchway, are in like manner distinguished from the fore and mizen masts, the channel wales, the false keel, and the fore and after hatchways, &c.

MAINOUR, MANOUR, or *Meinour* (from the French, *manier*, i. e. *manu tractare*), in a legal sense denotes the thing that a thief taketh away or stealeth: As to be taken with the mainour (*Pl. Cor.* fol. 179.), is to be taken with the thing stolen about him: And again (fol. 194.) it was presented, that a thief was delivered to the sheriff or viscount, together with the mainour: And again (fol. 186.), if a man be indicted, that he feloniously stole the goods of another, where, in truth, they are his own goods, and the goods be brought into the court as the mainour; and if it be demanded of him, what he saith to the goods, and he disclaim them; though he be acquitted of the felony, he shall lose the goods: And again (fol. 149.), if the defendant were taken with the mainour, and the mainour be carried to the court, they, in ancient times, would arraign him upon the mainour, without any appeal or indictment. Cowel. See *Blackst. Comment.* vol. iii. p. 71. vol. iv. p. 303.

MAINPRIZE. See *False Imprisonment*.

The writ of mainprize, *manu captio*, is a writ directed to the sheriff (either generally, when any man is imprisoned for a bailable offence, and bail hath been refused; or specially, when the offence or cause of commitment

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commitment is not properly bailable below), commanding him to take sureties for the prisoner's appearance, usually called *mainpernors*, and to set him at large. Mainpernors differ from bail, in that a man's bail may imprison or surrender him up before the stipulated day of appearance; mainpernors can do neither, but are barely sureties for his appearance at the day: bail are only sureties that the parties be answerable for the special matter for which they stipulate, mainpernors are bound to produce him to answer all charges whatever. See *HABEAS Corpus*.

**MAINTENANCE**, in *Law*, bears a near relation to **BARRETRY**; being an officious intermeddling in a suit that no way belongs to one, by maintaining or assisting either party with money or otherwise, to prosecute or defend it: a practice that was greatly encouraged by the first introduction of uses. This is an offence against public justice, as it keeps alive strife and contention, and perverts the remedial process of the law into an engine of oppression. And therefore, by the Roman law, it was a species of the *crimen falsi*, to enter into any confederacy, or do any act to support another's law suit, by money, witnesses, or patronage. A man may, however, maintain the suit of his near kinsman, servant, or poor neighbour, out of charity and compassion, with impunity. Otherwise the punishment by common law is fine and imprisonment; and by the statute 32 Henry VIII. c. 9, a forfeiture of 10l.

**MAINTENON, MADAME DE**, a French lady of extraordinary fortune, descended from an ancient family, and whose proper name was *Frances d'Aubigné*, was born in 1635. Her parents by misfortunes being ill able to support her, she fell to the care of her mother's relations; to escape which state of dependence, she was induced to marry that famous old buffoon the Abbé Scarron, who subsisted himself only on a pension allowed him by the court for his wit and parts. She lived with him many years, which Voltaire makes no scruple to call the happiest years of her life; but when he died in 1660, she found herself as indigent as she had been before her marriage. Her friends indeed endeavoured to get her husband's pension continued to her, and presented so many petitions to the king about it, all beginning with "The widow Scarron most humbly prays your majesty's," &c. that he was quite weary of them, and has been heard to exclaim, "Must I always be pestered with the widow Scarron?" At last, however, through the recommendation of Madame de Montespan, he settled a much larger pension on her, with a genteel apology for making her wait so long; and afterward made choice of her to take care of the education of the young duke of Maine, his son by Madame de Montespan. The letters she wrote on this occasion charmed the king, and were the origin of her advancement; her personal merit effected all the rest. He bought her the lands of Maintenon, the only estate she ever had; and finding her pleased with the acquisition, called her publicly *Madame de Maintenon*; which was of great service to her in her good fortune, by releasing her from the ridicule attending that of Scarron. Her elevation was to her only a retreat; the king came to her apartment every day after dinner, before and after supper, and continued there till midnight: here he did business with his ministers, while

Madame de Maintenon, employed in reading or needle-work, never showed any desire to talk of state affairs, and carefully avoided all appearance of cabal or intrigue; she did not even make use of her power to dignify her own relations. About the latter end of the year 1685, Louis XIV. married her, he being then in his 48th and she in her 50th year; and that piety with which she inspired the king to make her a wife instead of a mistress, became by degrees a settled disposition of mind. She prevailed on Louis to found a religious community at St Cyr, for the education of 300 young ladies of quality; and here she frequently retired from that melancholy of which she complains so pathetically in one of her letters, and which few ladies will suppose she should be liable to in such an elevated situation. But, as M. Voltaire says, if any thing could show the vanity of ambition, it would certainly be this letter. Madame de Maintenon could have no other uneasiness than the uniformity of her manner of living with a great king; and this made her once say to the count D'Aubigné her brother, "I can hold it no longer; I wish I was dead." The answer he made to her was, "You have then a promise to marry the Almighty!" Louis, however, died before her in 1715; when she retired wholly to St Cyr, and spent the rest of her days in acts of devotion; and what is most surprising is, that her husband left no certain provision for her, recommending her only to the duke of Orleans. She would accept no more than a pension of 80,000 livres, which was punctually paid her till she died in 1719. A collection of her letters has been published, and translated into English; from which familiar intercourses her character will be better known than from description.

**MAJOR**, in the art of war, the name of several officers of very different ranks and functions.

*Major-general*. See **GENERAL**.

*Major of a Regiment of Foot*, the next officer to the lieutenant-colonel, generally promoted from the eldest captain: he is to take care that the regiment be well exercised, to see it march in good order, and to rally it in case of being broke in action: he is the only officer among the infantry that is allowed to be on horseback in time of action, that he may the more readily execute the colonel's orders.

*Major of a Regiment of Horse*, as well as foot, ought to be a man of honour, integrity, understanding, courage, activity, experience, and address: he should be master of arithmetic, and keep a detail of the regiment in every particular: he should be skilled in horsemanship, and ever attentive to his business: one of his principal functions is, to keep an exact roster of the officers for duty: he should have a perfect knowledge in all the military evolutions, as he is obliged by his post to instruct others, &c.

*Town-Major*, the third officer in order in a garrison, and next to the deputy-governor. He should understand fortification, and has a particular charge of the guards, rounds, patrols, and centinels.

*Brigade-Major*, is a particular officer appointed for that purpose only in camp: he goes every day to headquarters to receive orders from the adjutant-general: there he writes exactly whatever is dictated to him: from thence he goes and gives the orders, at the place appointed for that purpose, to the different majors or

Maintenon,  
Major.



Major.

adjutants of the regiments which compose that brigade, and regulates with them the number of officers and men which each are to furnish for the duty of the army; taking care to keep an exact roster, that one may not give more than another; and that each march in their tour: in short, the major of brigade is charged with the particular detail in his own brigade, in much the same way as the adjutant-general is charged with the general detail of the duty of the army. He sends every morning to the adjutant-general an exact return, by battalion and company, of the men of his brigade missing at the retreat, or a report expressing that none are absent: he also mentions the officers absent with or without leave.

As all orders pass through the hands of the majors of brigade, they have infinite occasions of making known their talents and exactness.

*Major of Artillery*, is also the next officer to the Lieutenant-colonel. His post is very laborious, as the whole detail of the corps particularly rests with him; and for this reason all the non-commissioned officers are subordinate to him, as his title of *serjeant-major* imports: in this quality they must render him an exact account of every thing which comes to their knowledge, either regarding the duty or wants of the artillery and soldiers. He should possess a perfect knowledge of the power of artillery, together with all its evolutions. In the field he goes daily to receive orders from the brigade-major, and communicates them with the parole to his superiors, and then dictates them to the adjutant. He should be a very good mathematician, and be well acquainted with every thing belonging to the train of artillery, &c.

*Major of Engineers*, commonly with us called *Sub-director*, should be very well skilled in military architecture, fortification, gunnery, and mining. He should know how to fortify in the field, to attack and defend all sorts of posts, and to conduct the works in a siege, &c. See ENGINEER.

*Aid-Major*, is on sundry occasions appointed to act as major, who has a pre-eminence above others of the same denomination. Our horse and foot guards have their guidons, or second or third majors.

*Serjeant-Major*, is a non-commissioned officer, of great merit and capacity, subordinate to the adjutant as he is to the major. See SERJEANT.

*Drum Major*, is not only the first drummer in the regiment, but has the same authority over his drummers as the corporal has over his squad. He instructs them in their different beats; is daily at orders with the serjeants, to know the number of drummers for duty. He marches at their head when they beat in a body. In the day of battle, or at exercise, he must be very attentive to the orders given him, that he may regulate his beats according to the movements ordered.

*Fife-Major*, is he that plays the best on that instrument, and has the same authority over the fifers as the drum-major has over the drummers. He teaches them their duty, and appoints them for guards, &c.

MAJOR, in *Law*, a person who is of age to manage his own affairs. By the civil law a man is not a major till the age of 25 years; in England, he is a major at 21, as in Normandy at 20.

MAJOR, in *Logic*, is understood of the first proposition of a regular syllogism. It is called *major*, because

it has a more extensive sense than the minor proposition, as containing the principal term. See LOGIC.

MAJOR and *Minor*, in *Music*, are applied to concords which differ from each other by a semi-tone. See CONCORD.

MAJOR tone is the difference between the fifth and fourth; and major semi-tone the difference between the major fourth and the third. The major tone surpasses the minor by a comma.

*Major-Domo*, an Italian term, frequently used to signify a steward or master of the household. The title of *major-domo* was formerly given in the courts of princes to three different kinds of officers. 1. To him who took care of what related to the prince's table, or eating; otherwise called *eleater*, *præfectus mensæ*, *architriclinus*, *dapifer*, and *princeps coquorum*.—2. Major-domo was also applied to the steward of the household.—3. The title of major-domo was also given to the chief minister, or him to whom the prince deputed the administration of his affairs, foreign and domestic, relating to war as well as peace. Instances of major domos in the two first senses are frequent in the English, French, and Norman affairs.

MAJOR, *John*, a scholastic divine and historian, was born at Haddington, in the province of East Lothian in Scotland. It appears from some passages in his writings, that he resided a while both at Oxford and Cambridge. He went to Paris in 1493, and studied in the college of St Barbe, under the famous John Boulac. Thence he removed to that of Montacute, where he began to study divinity under the celebrated Standouk. In the year 1498, he was entered of the college of Navarre. In 1505, he was created doctor in divinity; returned to Scotland in 1519, and taught theology during several years in the university of St Andrew's. But, at length, being disgusted with the quarrels of his countrymen, he went back to Paris, and resumed his lectures in the college of Montacute, where he had several pupils who afterwards became men of great eminence. About the year 1530, he returned once more to Scotland, and was chosen professor of theology at St Andrew's, of which he afterwards became provost; and there died in 1547, aged 78. His logical treatises form one immense folio; his commentary on Aristotle's physics makes another; and his theological works amount to several volumes of the same size. These masses of crude and useless disquisition were the admiration of his contemporaries. A work, less prized in his own age, was to make him known to posterity. His book *De Gestis Scotorum*, was first published at Paris by Badius Ascensius, in the year 1521. He rejects in it some of the fictions of former historians; and would have had greater merit if he had rejected more. He intermingles the history of England with that of Scotland; and has incurred the censure of some partial writers, for giving an authority to the authors of the former nation, which he refuses to those of his own. Bede, Caxton, and Froissard, were exceedingly useful to him. What does the greatest honour to this author is, the freedom with which he has censured the rapacity and indolence of ecclesiastics, and the strain of ridicule with which he treats the pope's supremacy. The style in which he wrote does not deserve commendation. Bishop Spotiswood calls it *Sorbonnic* and *barbarous*.

MAJORCA,



Majorca,  
Mairan.

MAJORCA, an island of the Mediterranean, lying between Yvica on the west and Minorca on the east. These three islands were anciently called *Baleares*, supposed to be from the skill of their inhabitants in sailing, for which they were very remarkable. Originally they belonged to the Carthaginians; but during the wars of that people with the Romans they seem to have regained their liberty. In 122 B. C. they were subdued by Metellus the Roman consul, who treated the inhabitants with such cruelty, that out of 30,000 he scarce left 1000 alive. He then built two cities on Majorca; one called *Palma*, now *Majorca*, to the east; the other to the west, named *Pollentia*, now no longer in being. The island continued subject to the Romans, and to the nations who overrun the western part of the empire, for many ages. At last it was subdued by the Moors about the year 800. By them the island was put in a much better condition than it ever was before or since. The Moors being very industrious, and also populous, surrounded the whole coast with fortifications, that is, with a kind of towers and lines between them; cultivated every spot in the island that was not either rock or sand; and had no fewer than 15 great towns, whereas now there are not above three. Neither was it at all difficult for the Moorish monarch to bring into the field an army much superior in number to the inhabitants that are now upon it, taking in all ranks, sexes, and ages. In 1229, the island was subdued by the king of Arragon, who established in it a new kingdom, feudatory to that of Arragon, which was again destroyed in 1341 by the same monarchs; and ever since, the island hath been subject to Spain, and hath entirely lost its importance. It is about 60 miles long, and 45 broad. The air is clear and temperate; and, by its situation, the heat in summer is so qualified by the breezes, that it is by far the most pleasant of all the islands in the Mediterranean. There are some mountains; but the country is generally flat, and of such an excellent soil, that it produces great quantities of corn as good in its kind as any in Europe. Oil, wine, and salt, are very plentiful, as also black cattle and sheep; but deer, rabbits, and wild-fowl, abound so much, that they alone are sufficient for the subsistence of the inhabitants. There are no rivers, but a great many springs and wells, as well as several good harbours. The inhabitants are robust, active, and good seamen.

MAJORCA, a handsome, large, rich, and strong town, in the island of the same name, with a bishop's see. It contains about 6000 houses, and 22 churches, besides the cathedral. The squares, the cathedral, and the royal palace, are magnificent structures. A captain-general resides there, who commands the whole island; and there is a garrison against the incursion of the Moors. It was taken by the English in 1706; but was retaken in 1715, since which time it has been in the hands of the Spaniards. It is seated on the south-west part of the island, where there is a good harbour, 70 miles north-east of Yvica, 120 south-east of Barcelona, 140 east of Valencia, and 300 from Madrid. E. Long. 2. 55. N. Lat. 39. 36.

MAIRAN, JEAN-JACQUES D'ORTOUS DE, descended from a noble family at Besiers, was born in that city in 1678, and died at Paris of a defluxion on the lungs on the 20th of February 1771, at the age of 93. He

was one of the most illustrious members of the Academy of Sciences and of the French Academy. Being early connected with the former society, he, in the year 1741, succeeded Fontenelle in the office of secretary. This station he filled with the most distinguished success till the year 1744; and, like his predecessor, possessed the faculty of placing the most abstract subjects in the clearest light; a talent which is very rare, but which appears conspicuous in all his works. The chief of them are, 1. *Dissertation sur la Glace*, the last edition of which was printed in 1749, 12mo. This excellent little tract has been translated into German and Italian. 2. *Dissertation sur la cause de la lumiere des Phosphores*, 1717, 12mo. 3. *Traité historique et physique de l'Aurore Boreale*, first published in 12mo, 1733, and afterwards much enlarged and printed in 4to in 1754. The system embraced by the author is liable to be controverted; but the book displays great taste and erudition. 4. *Lettre au Pere Parenin, contenant diverses questions sur la Chine*, 12mo. This is a very curious work, and is full of that philosophical spirit which characterizes the author's other publications. 5. A great number of papers in the memoirs of the Academy of Sciences (since 1719), of which he published some volumes. 6. Several Dissertations on particular subjects, which form only small pamphlets. 7. The *Eloges* of the Academicians of the Academy of Sciences, who died in 1741, 1742, 1743, in 12mo, 1747. Without imitating Fontenelle, the author attained almost equal excellence by his talent of discriminating characters, appreciating their worth, and giving them their due share of praise, without at the same time concealing their defects.

Mairan's reputation extended itself into foreign countries. He was a member of the Imperial Academy at Petersburg, of the Royal Academy of London, of the institution at Bologna, of the royal societies of Edinburgh and Upsal, &c. The gentleness and sweetness of his manners made him be considered as a perfect model of the social virtues. He possessed that amiable politeness, that agreeable gaiety, and that steady firmness, which never fail to procure love and esteem. But we must add, says M. Saverien, that every thing had a reference to himself; self-love and a regard to his own reputation were the motives of all his actions. He was deeply affected with censure or applause, and yet he had many friends. Uniting much gentleness of disposition to an ingenious and agreeable expression of countenance, he possessed the art of insinuating himself into the good graces of others, so as to pave the way to elevation and success. He was honoured with protection and particular marks of regard by the duke of Orleans the regent, who bequeathed to him his watch in his will. The prince of Conti loaded him with favours; and the chancellor Daguesseau, observing in him great originality and ingenuity of thought, appointed him president of the *Journal des Sçavans*: a station which he filled very much to the satisfaction of the public and of the learned. The private and selfish views imputed to him by M. Saverien never made him deficient in what was due to the strictest probity. An expression of his is remembered, which could have proceeded only from sentiment; "An honest man (said he) is one whose blood is refreshed with the recital of a good action."

He

Mairan.



Maire,  
Maître.

He was ready at repartee. One day he happened to be in company with a gentleman of the gown, and to differ with him in opinion upon some point which had no more connexion with jurisprudence than with geometry. "Sir (said the magistrate, who supposed that a learned man was a perfect idiot out of his own sphere), we are not now talking of Euclid or Archimedes."—"No, nor of Cujas nor Barthole!" replied the academician.

MAIRE, STREIGHTS LE, a passage to Cape Horn, situated between Terra del Fuego and Staten island; which, being discovered by Le Maire, obtained his name. It is now, however, less made use of than formerly, ships going round Staten island as well as Terra del Fuego.

MAISTRE, LOUIS-ISAAC LE, better known by the name of Sacy, was born at Paris in 1613. His genius very early discovered itself. After an excellent course of study under the direction of the abbot of Saint Cyran, he was raised to the priesthood in 1648, and soon after was chosen, on account of his virtues, to be director of the religious of Port Royal des Champs. As this monastery bore the reputation of Jansenism, their enemies were furnished with a pretence for persecuting them. In 1661 the director was obliged to conceal himself; and in 1666 he was committed to the Bastille. During his confinement he composed the book *Figures de la Bible*; in which, according to the Molinists, allusions are made to the sufferings endured by the Jansenists. If we may believe a Jesuit writer, the gentlemen of Port Royal and those who opposed their errors are represented in the 92d figure, the former by David, the latter by Saul. Rehoboam in the 116th figure, Jezebel in the 130th, Ahafuerus in the 148th and 150th, and Darius in the 160th, in the opinion of this author, represent Louis XIV. The writer of these anecdotes, of which we do not answer for the authenticity, adds, that when Sacy wished to reproach his persecutors, he always did it by means of the holy fathers. If this is the key to those enigmatical portraits and allusions, which it is pretended are to be found in that book, certain we are it was not discovered by the spirit of charity. Besides, it is not certain that Sacy was the author of that book; for it is much more probable that it was composed by Nicolas Fontaine his fellow prisoner.

To Sacy's confinement the public are indebted for a French translation of the Bible. This work was finished in 1668, the evening before the feast of All Saints; on which day he recovered his liberty, after an imprisonment of two years and a half. He was presented to the king and the minister; and all the favour he asked from them was, that they would send several times a year to examine the state of the prisoners in the Bastille. Le Maître continued at Paris till 1675, when he retired to Port Royal, which he was obliged to leave in 1679. He went to settle at Pomponne, where he died January 4. 1684, at the age of 71. From him we have, 1. *La Traduction de la Bible*, with explanations of the spiritual and literal meaning taken from the fathers, the greater part of which was done by Du Fossé, Huré, and Tourneux. This is the best French translation which has yet appeared, and the most esteemed edition is that of Paris in 32 volumes 8vo, 1682 and following years. The author trans-

lated the New Testament three times, because the first time the style of it appeared too much laboured and too refined, and the second too simple. A counterfeit of the edition in 32 vols. 8vo, was published at Brussels in 40 vols. 12mo. The best editions of this version have been published at Brussels, 1700, in 3 vols. 4to; at Amsterdam, under the name of Paris, 1711, 8. vols 12mo; at Paris 1713, in 2 vols 4to; and in 1715, with notes and a concordance, 4 vols folio. 2. *Une Traduction des Pseaumes selon l'Hebreu et la Vulgate*, in 12mo. 3. *Une version des Homelies de St Chrysostome sur St Matthieu*, in 3 vols 8vo. 4. *La Traduction de l'Imitation de Jesus Christ (sous le nom de Beuil, prieur de Saint-Val)*, Paris 1663, 8vo. 5. *Celle de Phedre*, 12mo, (sous le nom de Saint-Aubin). 6. *De trois Comedies de Terence*, in 12mo. 7. *Des Lettres de Bongars (sous le nom de Brianville)*. 8. *Du Poëme de St Prosper sur les ingrates*, 12mo, en vers et en prose. 9. *Les Enluminures de l'Almanach des Jésuites*, 1654, 12mo, reprinted in 1733. In 1653 there appeared a print representing the overthrow of Jansenism anathematized by the two powers, and the confusion of the disciples of the bishop of Ypres, who are going to seek refuge with the Calvinists. The monks of Port-Royal were greatly provoked at this print, and Sacy thought that he would lower its reputation by means of his *Enluminures*, which Racine has ridiculed in one of his letters. It is indeed very strange that men of taste and piety should write satires to the injury of one another. 10. *Heures de Port-Royal*, 12mo. 11. *Lettres de Piété*, Paris 1690, 2 vols. 8vo.

MAITTAIRE, MICHAEL, a learned English writer, was born in 1668. Dr South, canon of Christ-Church, made him a student of that house, where he took the degree of M. A. March 23. 1696. From 1695 till 1699 he was second master of Westminster school; which was afterwards indebted to him for *Græcæ Linguae Dialecti, in usum Scholæ Westmonasteriensis*, 1706, 8vo; and for "The English Grammar, applied to, and exemplified in, the English Tongue, 1712," 8vo. In 1711, he published "Remarks on Mr Whiston's Account of the Convocation's proceedings with relation to himself, in a Letter to the right reverend Father in God George Lord Bishop of Bath and Wells," 8vo; also "An Essay against Arianism, and some other Heresies; or a Reply to Mr William Whiston's Historical Preface and Appendix to his Primitive Christianity revived," 8vo. In 1709 he gave the first specimen of his great skill in typographical antiquities, by publishing *Stephanorum Historia, vitas ipsorum ac libros complectens*, 8vo; which was followed in 1717 by *Historia Typographorum aliquot Parisiensium, vitas et libros complectens*, 8vo. In 1719, *Annales Typographici ab artis inventæ origine ad annum MD, 4to*. The second volume, divided into two parts, and continued to the year 1536, was published at the Hague in 1702; introduced by a letter of John Toland, under the title of *Conjectura verisimilis de prima Typographiæ Inventione*. The third volume, from the same press, in two parts, continued to 1557, and (by an Appendix) to 1664, in 1725. In 1733 was published at Amsterdam what is usually considered as the fourth volume, under the title of *Annales Typographici ab artis inventæ origine, ad annum MDCLXIV, opera Mich. Maittaire, A. M. editio nova, auctior et emendatior*;

Maître,  
Maittaire.



*Maître.* *tomi primi pars posterior* (A.) In 1741 the work was closed at London, by *Annalium Typographicorum Tomus quintus et ultimus, indicem in tomos quatuor præcunctes complectens*; divided, like the two preceding volumes, into two parts. In the intermediate years, Mr Maittaire was diligently employed on various works of value. In 1713 he published by subscription *Opera et Fragmenta Veterum Poëtarum*, 1713, two volumes in folio: the title of some copies is dated 1721. In 1714, he was the editor of a Greek Testament, in 2 vols. The Latin writers, which he published separately, most of them with good indexes, came out in the following order: In 1713, *Christus Patiens*; *Justin*; *Lucretius*; *Phædrus*; *Sallust*; *Terence*. In 1715, *Caullus*; *Tibullus*; *Propertius*; *Cornelius Nepos*; *Florus*; *Horace*; *Juvenal*; *Ovid*, 3 vols; *Virgil*. In 1711, *Cæsar's Commentaries*; *Martial*; *Quintus Curtius*. In 1718 and 1725, *Velleius Paterculus*. In 1719, *Lucau*. In 1720, *Bonifonii Carmina*. In 1721 he published, *Batrachomyomachia, Græcæ, ad veterum exemplarium fidem recula; glossa Græcæ, variantibus lectionibus, versibus Latinis, commentariis et indicibus, illustrata*, 8vo. In 1722, *Miscellanea Græcorum aliquot Scriptorum Carmina, cum versione Latina et notis*, 4to. In 1724 he compiled, at the request of Dr John Freind (at whose expence it was printed), an index to the works of *Arææus*, to accompany the splendid folio edition of that author in 1723. In 1725 he published an excellent edition of *Anacreon* in 4to, of which no more than 100 copies were printed, and the few errata in each copy corrected by his own hand. A second edition of the like number was printed in 1741, with six copies on fine writing paper. In 1726 he published *Petri Petiti Medici Parisiensis in tres priores Arææi Cappadocis Libros Commentarii, nunc primò editi*, 4to. This learned commentary was found among the papers of Grævius. From 1728 to 1733 he was employed in publishing *Marmorum Arundelianorum, Seldenianorum, aliorumque Academiæ Oxoniensium donatorum, una cum Commentariis et Indice, editio secunda*, folio; to which an Appendix was printed in 1733. *Epistola D. Mich. Maittaire ad D. P. Des Maiseaux, in qua Indicis in Annales Typographicorum methodus explicatur, &c.* is printed in "The Present State of the Republic of Letters," August 1733, p. 142. The life of Robert Stephens in Latin, revised and corrected by the author, with a new and complete list of his works, is prefixed to the improved edition of R. Stephens's Thesaurus, 4 vols in folio, in 1734. In 1736 appeared *Antique Inscriptions duæ, folio*; being a commentary on two large copper tables discovered near Heraclea, in the bay of Tarentum. In 1738 were printed at the Hague *Græcæ Lingue Dialecti in Scholæ Regiæ Westmonasteriensis usum recogniti, opera Mich. Maittaire*. In 1739 he addressed to the empress of Russia a small Latin poem, under the title of *Carmen Epinicum Augustissimæ Kulsorum Imperatrici sacrum*. His name not having been printed in the title page,

it is not so generally known that he was editor of *Plutarch's Apophthegmata*, 1741, 4to. The last publication of Mr Maittaire was a volume of poems in 4to, 1742, under the title of *Senilia, sive Poëtica aliquot in argumentis varii generis tentamina*. Mr Maittaire died in 1747, aged 79. His valuable library, which had been 50 years collecting, was sold by auction by Messrs Cock and Langford, at the close of the same year, and the beginning of the following, taking up in all 44 nights. Mr Maittaire, it may be added, was patronized by the first earl of Oxford, both before and after that gentleman's elevation to the peerage, and continued a favourite with his son the second earl. He was also Latin tutor to Mr Stanhope, the earl of Chesterfield's favourite son.

MAIZE, or INDIAN CORN. See ZEA, BOTANY Index.

MAKI. See LEMUR, MAMMALIA Index.

MALABAR, the name given to a great part of the west coast of the peninsula of Hindostan on this side of the Ganges, extending from the kingdom of Baglala to Cape Comorin, or from the north extremity of the kingdom of Canara as far as Cape Comorin, and lying between 9° and 14° N. Lat. It is bounded by the mountains of Balagate on the east; by Deccan on the north; and on the west and south is washed by the Indian sea.

MALACA, in *Ancient Geography*, surnamed *Federatorum* by Pliny; a maritime town of Bætica: a Carthaginian colony according to Strabo; so called from *Malach*, signifying "salt;" a place noted for pickled or salted meat. Now *Maloga*, a port town of Granada in Spain. W. Long. 4. 45. N. Lat. 36. 40.

MALACCA, the most southerly part of the great peninsula beyond the Ganges, is about 600 miles in length, and contains a kingdom of the same name. It is bounded by the kingdom of Siam on the north; by the bay of Siam and the Indian ocean on the east; and by the straits of Malacca, which separate it from the island of Sumatra, on the south-west. This country is more to the south than any other in the East Indies; and comprehends the towns and kingdoms of Patan, Pahan, Igohor, Pera, Queda, Borkelon, Ligor; and to the north the town and kingdom of Tanassery, where the Portuguese formerly carried on a great trade. This last either does or did belong to the king of Siam. The people of Malacca are in general subject to the Dutch, who possess all the strong places on the coast, and compel them to trade on their own terms, excluding all other nations of Europe from having any commerce with the natives.

The Malays are governed by feudal laws. A chief, who has the title of *king* or *sultan*, issues his commands to his great vassals, who have other vassals in subjection to them in a similar manner. A small part of the nation live independent, under the title of *oranicai* or *noble*,

Maize  
Malacca.

(A) The awkwardness of this title has induced many collectors to dispose of their first volume, as thinking it superseded by the second edition: but this is by no means the case; the volume of 1719 being equally necessary to complete the set as that of 1733, which is a revision of all the former volumes. The whole work when properly bound, consists, *ad libitum*, either of five volumes or of nine.



Malacca. *ble*, and sell their services to those who pay them best; while the body of the nation is composed of slaves, and live in perpetual servitude.

The generality of these people are restless, fond of navigation, war, plunder, emigration, colonies, desperate enterprises, adventures, and gallantry. They talk incessantly of their honour and their bravery; whilst they are universally considered by those with whom they have intercourse, as the most treacherous, ferocious people on earth. This ferocity, which the Malays qualify under the name of *courage*, is so well known to the European companies who have settlements in the Indies, that they have universally agreed in prohibiting the captains of their ships who may put into the Malay islands, from taking on board any seamen from that nation, except in the greatest distress, and then on no account to exceed two or three. It is not in the least uncommon for an handful of these horrid savages suddenly to embark, attack a vessel by surprise, massacre the people, and make themselves masters of her. Malay batteaux, with 24 or 30 men, have been known to board European ships of 30 or 40 guns, in order to take possession of them, and murder with their poniards great part of the crew. Those who are not slaves go always armed: they would think themselves disgraced if they went abroad without their poniards, which they call *crit*. As their lives are a perpetual round of agitation and tumult, they cannot endure the long flowing garments in use among the other Asiatics. Their habits are exactly adapted to their shapes, and loaded with a multitude of buttons, which fasten them close to their bodies.

The country possessed by the Malays is in general very fertile. It abounds with odoriferous woods, such as the aloe, the sandal, and cassia. The ground is covered with flowers of the greatest fragrance, of which there is a perpetual succession throughout the year. There are abundance of mines of the most precious metals, said to be richer even than those of Brazil or Peru, and in some places are mines of diamonds. The sea also abounds with excellent fish, together with ambergris, pearls, and those delicate birds-nests so much in request in China, formed in the rocks with the spawn of fishes and the foam of the sea, by a species of small-sized swallow peculiar to those seas. These are of such an exquisite flavour, that the Chinese for a long time purchased them for their weight in gold, and still buy them at an excessive price. See *BIRDS-NEST*.

Notwithstanding all this plenty, however, the Malays are miserable. The culture of the lands, abandoned to slaves, is fallen into contempt. These wretched labourers, dragged incessantly from their rustic employments by their restless masters, who delight in war and maritime enterprises, have never time or resolution to give the necessary attention to the labouring of their grounds; of consequence the lands for the most part are uncultivated, and produce no kind of grain for the subsistence of the inhabitants. The sago tree indeed supplies in part the defect of grain. It is a species of the palm tree, which grows naturally in the woods to the height of about 20 or 30 feet; its circumference being sometimes from five to six. Its ligneous bark is about an inch in thickness, and covers a multitude of long fibres, which being interwoven one with another

envelope a mass of a gummy kind of meal. As soon as this tree is ripe, a whitish dust, which transpires through the pores of the leaves, and adheres to their extremities, indicates that the trees are in a state of maturity. The Malays then cut them down near the root, and divide them into several sections, which they split into quarters: they then scoop out the mass of mealy substance, which is enveloped by and adheres to the fibres; they dilute it in pure water, and then pass it through a straining bag of fine cloth, in order to separate it from the fibres. When this paste has lost part of its moisture by evaporation, the Malays throw it into a kind of earthen vessel of different shapes, where they allow it to dry and harden. This paste is wholesome nourishing food, and preserves for many years.

MALACCA, the capital of the country of the same name, is situated in a flat country close to the sea. The walls and fortifications are founded on a solid rock, and are carried up to a great height; the lower part of them is washed by the sea at every tide, and on the land side is a wide canal or ditch, cut from the sea to the river, which makes it an island. In 1641 it was taken from the Portuguese by the Dutch, since which time it has continued in their possession. In this city there are a great many broad streets; but they are very badly paved. The houses are tolerably well built, and some of them have gardens behind or on one side. The inhabitants consist of a few Dutch, many Malayans, Moors, Chinese, and other Indians, who are kept in awe by a fortress, which is separated from the city by a river, and by good walls and bastions, as well as by strong gates, and a drawbridge that is on the eastern side. The city is well situated for trade and navigation. E. Long. 102. 2. N. Lat. 2. 12.

MALACHI, or the prophecy of MALACHI, a canonical book of the Old Testament, and the last of the 12 lesser prophets. Malachi prophesied about 300 years before Christ, reproving the Jews for their wickedness after their return from Babylon, charging them with rebellion, sacrilege, adultery, profaneness, and infidelity; and condemning the priests for being scandalously careless in their ministry; at the same time not forgetting to encourage the pious few, who, in that corrupt age, maintained their integrity. This prophet distinctly points at the Messiah, who was suddenly to come to his temple, and to be introduced by Elijah the prophet, that is, John the Baptist, who came in the spirit and power of Elias or Elijah.

MALACIA, in *Medicine*, is a languishing disorder incident to pregnant women, in which they long sometimes for one kind of food and sometimes for another, and eat it with extraordinary greediness.

MALACOPTERYGEOUS, in *Ichthyology*, an appellation given to fishes having the rays of their fins bony at the extremities, but not pointed, like those of acanthopterygeous fishes.

MALACOSTOMOUS FISHES, those destitute of teeth in the jaws, called in English *leather-mouthed*, as the tench, carp, bream, &c.

MALAGA, an ancient, rich, and strong town of Spain, in the kingdom of Granada, with two castles, a bishop's see, and a good harbour, which renders it a place of considerable commerce. The advantage



**Malagrida.** of this commerce, according to M. Bourgoanne, is entirely in favour of Spain, but almost without any to its navigation; of 842 vessels which arrived at this port in 1782, from almost every commercial nation, scarcely 100 were Spanish, even reckoning the ships of war which anchored there. The English, who are in possession of the greatest part of the trade, carry thither woollens and great quantities of small ware; the Dutch carry spice, cutlery ware, laces, ribbons, thread, &c. These nations, those of the north, and Italy, export to the amount of two millions and a half of piastres in wines, fruits, sumach, pickled anchovies, oil, &c. and all they carry thither amounts only to about a million and a half. The balance would be still more advantageous for Malaga if the silk and wool of the kingdom of Granada were exported from this port; but these are employed in the country where they are produced. The streets of Malaga are narrow, but there are some good squares; and the cathedral church is a superb building, said to be as large as St Paul's. The only other building of note is the bishop's palace; which is a large edifice, but looks insignificant from its being situated near the other. Its prelate enjoys a revenue of 16,000l. sterling. Malaga is seated on the Mediterranean sea, at the foot of a craggy mountain. W. Long. 4. 10. N. Lat. 36. 51.

**MALAGRIDA, GABRIEL**, an Italian Jesuit, was chosen by the general of the order to conduct missions into Portugal. To great ease and fluency of speech, for which he was indebted to enthusiasm, he added the most ardent zeal for the interest of the society to which he belonged. He soon became the fashionable director; and every one, small or great, placed himself under his conduct. He was respected as a saint, and consulted as an oracle. When a conspiracy was formed by the duke d'Aveiro against the king of Portugal, it is asserted by the enemies of the society, that three Jesuits, among whom was Malagrida, were consulted concerning the measure. They add (what is very improbable), that it was decided by these casuists, that it was only a venial crime to kill a king who persecuted the saints. At that time the king of Portugal, spurred on by a minister who had no favour for the Jesuits, openly declared himself against them, and soon after banished them from his kingdom. Only three of them were apprehended, Malagrida, Alexander, and Mathos, who were accused of having approved this murder. But either the trial could not be proceeded in without the consent of the pope, which was not granted, or no proof could be got sufficient to condemn Malagrida; and therefore the king was obliged to deliver him to the Inquisition, as being suspected of having formerly advanced some rash propositions which bordered on heresy. Two publications which he acknowledged, and which give the fullest indications of complete insanity, were the foundation of these suspicions. The one was written in Latin, and entitled *Traſtatus de vita et imperio Antichriſti*; the other in Portuguese, under the title of the "Life of St Anne, composed with the assistance of the blessed Virgin Mary and her most holy Son." They are full of extravagance and absurdity.—This enthusiast pretended to have the gift of miracles. He confessed before the judges of the Inquisition, that God himself

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had declared him his ambassador, apostle, and prophet; that he was united to God by a perpetual union; and that the Virgin Mary, with the consent of Jesus Christ and of the whole Trinity, had declared him to be her son. In short, he confessed, as is pretended, that he felt in the prison, at the age of 72, some emotions very uncommon at that period of life, which at first gave him great uneasiness, but that it had been revealed to him by God that these motions were only the natural effect of an involuntary agitation, wherein there was the same merit as in prayer. It was for such extravagancies, that this unfortunate wretch was condemned by the Inquisition: but his death was hastened by a vision which he eagerly revealed. Upon occasion of the death of the marquis de Tancourt, commander in chief of the province of Estremadura, mournful and continued discharges were made in honour of him by the castle of Lisbon, and by all the forts on the banks of the Tagus. These being heard by Malagrida in his dungeon, he instantly supposed, from their extraordinary nature, and from their happening during the night, that the king was dead. The next day he demanded an audience from the members of the Inquisition: which being granted, he told them that he had been ordered by God to show the minister of the holy office that he was not a hypocrite, as was pretended; for the king's death had been revealed to him, and he had seen in a vision the torments to which his majesty was condemned for having persecuted the religious of his order. This was sufficient to accelerate his punishment: he was burnt on the 21st of September 1761; not as the accomplice of a parricide, but as a false prophet, for which he deserved to be confined in bedlam rather than tied to the stake. The acts of impiety whereof he was accused were nothing more than extravagancies proceeding from a mistaken devotion and an overheated brain.

**MALDEN**, a town of Essex, 37 miles from London, situated on an eminence at the conflux of the Chalmer and Pant or Blackwater, where they enter the sea. It was the first Roman colony in Britain, and the seat of some of the old British kings. It was besieged, plundered, and burnt by Queen Boadicea; but the Romans repaired it. It was again ruined by the Danes, but rebuilt by the Saxons. It has a convenient haven on an arm of the sea for vessels of 400 tons; and a considerable trade in coals, iron, corn, and deals. A little beyond it begins Blackwater bay, famous for the Walfleet oysters. The channel called Malden water is navigable to the town. King Edward the elder (of the Saxon race) resided here whilst he built Witham and Hertford castles. On the west side of the town are the remains of a camp.

**MALALEUCA**, the **CAYPUTI TREE**, a genus of plants belonging to the polyadelphia class. See **BOTANY Index**. This plant, which is a native of the Moluccas, yields the oil called *Cayputi*.

**MALDIVIA ISLANDS**, a cluster of small islands in the Indian ocean, 500 miles south-west of the continent of the island of Ceylon. They are about 1000 in number, and are very small; extending from the second degree of south latitude to the seventh degree of north latitude. They are generally black low lands, surrounded by rocks and sands. The natives are of the same complexion with the Arabians, profess the

3 H

Mahometan

Malagrida  
||  
Maldivia.



Male,  
Male-  
branche.

Mahometan religion, and are subject to one sovereign. The channels between the islands are very narrow, and some of them are fordable. They produce neither rice, corn, nor herbage; but the natives live upon coconuts, and other fruits, roots, and fish. They have little or nothing to barter with, unless the shells called *cowry*, or *blackmore's teeth*, with which they abound: and these serve instead of small coin in many parts of India.

MALE, among zoologists, that sex of animals which has the parts of generation situated externally. See SEX and GENERATION.

The term *male* has also, from some similitude to that sex in animals, been applied to several inanimate things; thus we say, a male flower, a male screw, &c. See MAS *Planta*, MASCULUS *Flos*, and SCREW; also FEMALE and FLOS.

MALEBRANCHE, NICHOLAS, an eminent French metaphysician, the son of Nicholas Malebranche, secretary to the French king, was born in 1638, and admitted into the congregation of the oratory in 1660. He at first applied himself to the study of languages and history: but afterwards meeting with Des Cartes's *Treatise of Man*, he gave himself up entirely to the study of philosophy. In 1699, he was admitted an honorary member of the Royal Academy of Sciences at Paris. Notwithstanding he was of a delicate constitution, he enjoyed a pretty good state of health till his death, which happened in 1715, at the age of 77. Father Malebranche read little, but thought a great deal. He despised that kind of philosophy which consists only in knowing the opinions of other men, since a person may know the history of other men's thoughts without thinking himself. He could never read ten verses together without disgust. He meditated with his windows shut, in order to keep out the light, which he found to be a disturbance to him. His conversation turned upon the same subjects as his books; but was mixed with so much modesty and deference to the judgement of others, that it was extremely and universally desired. His books are famous; particularly his *Recherche de la Verité*, i. e. "Search after truth:" his design in which is, to point to us the errors into which we are daily led by our senses, imagination, and passions; and to prescribe a method for discovering the truth, which he does, by starting the notion of seeing all things in God. And hence he is led to think and speak merely of human knowledge, either as it lies in written books, or in the book of nature, compared with that light which displays itself from the ideal world; and, by attending to which, with pure and defecate minds, he supposes knowledge to be most easily had. The fineness of this author's sentiments, together with his fine manner of expressing them, made every body admire his genius and abilities; but he has generally passed for a visionary philosopher. Mr Locke, in his examination of Malebranche's opinion of seeing all things in God, styles him "an acute and ingenious author;" and tells us, that there are "a great many very fine thoughts, judicious reasonings, and uncommon reflections in his *Recherches*." But Mr Locke, in that piece, endeavours to refute the chief principles of his system. He wrote many other pieces besides that we have mentioned, all tending some way or other to confirm his main system, established

Male-  
sherbes.

in the *Recherche*, and to clear it from the objections which were brought against it, or from the consequences which were deduced from it; and if he has not attained what he aimed at in these several productions, he has certainly shown great abilities and a vast force of genius.

MALESHERBES, CHRISTIAN-WILLIAM DE LAMOIGNON DE, was born at Paris in 1721. He was son of the chancellor of France, William de Lamoignon, who was descended of an illustrious family. His early education he received at the Jesuits college, applying himself afterwards to the study of the law with great assiduity, as well as history and political economy. He was chosen a counsellor of the parliament of Paris at the age of 24, and succeeded his father as president of the court of aids in the year 1750. With the presidentship of the court of aids he received the superintendance of the press, in whose hands it became the means of promoting liberty to a degree beyond all former example in that country. As he firmly believed that despotism alone had any reason to dread the liberty of the press, he was anxious to give it every extension consistent with sound policy and the state of public opinion. Through his favour the French Encyclopædia, the works of Rousseau, and many other free speculations, issued from the press, in defiance of the terrific anathemas of the Sorbonne. This had its own weight in paving the way to the horrors of the revolution, which Malesherbes did not probably foresee; yet it had also the happy effect of freeing the minds of men from the fetters of ignorance and superstition, and of enlightening them respecting their rights and duties in society.

The superintendance of the press having been taken from him, to confer it on that tool of despotism Maupeou, he was only the more intent on fulfilling the duties of his presidentship, and opposing arbitrary power with all his vigour, being thus freed from a number of other cares. When the proceedings of the court of aids were to be prohibited, on account of the spirited conduct of Malesherbes in the case of one Monnerat, who had been most unjustly treated by the farmers of the revenue, he presented a remonstrance to the king, containing a free protest against the enormous abuses of lettres de cachet, by which every man's liberty was rendered precarious, concluding with these memorable words; "no one is great enough to be secure from the hatred of a minister, nor little enough not to merit that of a clerk." Soon after this he was banished to his country-seat by a lettre de cachet, and the duke de Richelieu at the head of an armed force abolished the tribunal. In this state of retirement he committed to paper a number of observations on the political and judicial state of France, on agriculture and natural history, which all perished in the wreck of the revolution.

On the accession of Louis XVI. to the throne in 1774, he received an order to appear at the place where the court of aids had sat, and resume the presidentship of the tribunal thus restored. He laid before the new sovereign an ample memoir on the calamitous state of the kingdom, with a free exposure of the faults by which it had been produced, from a firm conviction that truth at all times should have access to the throne. His sentiments so fully accorded with those of the

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Male-  
sherbes.

the young king, whose mind was not yet corrupted, that he was chosen minister of state in the year 1775, in which elevated rank he was only ambitious to extend the sphere of his usefulness. His first care was to visit the prisons, and restore to liberty the innocent victims of the former reign. His administration was also distinguished by the powerful encouragement of commerce and agriculture, being supported in his laudable endeavours by the able and virtuous Turgot, at that time comptroller-general of the revenue, who having lost his place through the intrigues of financiers, Malherbes did not long retain his office after him. As he failed in his benevolent endeavours to ameliorate the condition of Protestants respecting the solemnization of marriage and the legitimating of their children, he resigned his office in the month of May 1776.

Being fond of travelling, and resolved to mix freely with people of every description, in order to acquire an accurate knowledge of human nature, he assumed the humble title of M. Guillaume, and commenced his journey in a simple, frugal manner. He travelled through France, Switzerland and Holland, frequently on foot, and lodged in villages, to have a nearer survey of the state of the country. He made memorandums, with the greatest care, of whatever he conceived to be worthy of observation respecting the productions of nature and the operations of industry; and after an absence of some years he returned to his favourite mansion, fully fraught with such a stock of valuable knowledge as his age and experience qualified him to appreciate.

Finding on his return that his native country was far advanced in philosophical principles, he drew up two elaborate memoirs to the king, one of them on the condition of the Protestants, and the other on civil liberty and toleration in general; and the difficulties with which ministers now found themselves surrounded, induced the king to call him to his councils, being a man who stood high in the esteem of the whole nation, but he received no appointment to any particular office. In the critical state in which he clearly saw the king stood, he made one effort for opening his eyes, by means of two spirited and energetic memoirs, "On the calamities of France, and the means of repairing them;" but, as the queen's party carried every thing before it, he was not even permitted to read them, and also denied a private interview with the ill-fated monarch, in consequence of which he took his final leave of the court.

When by a decree of the national convention the unfortunate Louis was to be tried for his life, Malherbes generously offered to plead his cause, nobly forgetting the manner in which he had been banished from his councils. He was the person who announced to him his cruel doom, and one of the last who took leave of him, when taken out to suffer. After this eventful period, he withdrew to his retreat with a deeply wounded heart, and refused to hear any thing more of what was acting on the bloody theatre of Paris. Walking one morning in his garden, he perceived four men coming towards his house, sent by the convention to arrest his daughter Mad. Lepelletier Rossambo and her husband, once president of the parliament of Paris; and the accusation of Malherbes was followed, as a matter of course, by the sentence of death. The truth

is, the convention never forgave his defence of the king; an action, however, in which he himself always gloried.

Malherbes  
Malice.

On the fatal day, this great man left the prison with a serene countenance; and, happening to stumble against a stone, he said (with the pleasantry of Sir Thomas More), "a Roman would have thought this an unlucky omen, and walked back again." He conversed with his children in the cart, took an affectionate farewell, and received the stroke in April 1794, in the 73d year of his age. Thus fell, by the insupportable cruelty of a monster, whose hatred to men of virtue and abilities was implacable, one of the most spotless and exemplary characters of the period at which he lived. The government afterwards made some reparation for the injustice done him, by ordering his bust to be placed among those of the great men who have reflected honour upon their country.

MALHERBE, FRANCIS DE, the best French poet of his time, was born at Caen about the year 1556, of a noble and ancient family. He quitted Normandy at 17 years of age; and went into Provence, where he attached himself to the family of Henry Angouleme, the natural son of King Henry II. and was in the service of that prince till he was killed by Altoviti in 1586. At length Cardinal de Perron, being informed of his merit and abilities, introduced him to Henry IV. who took him into his service. After that monarch's death, Queen Mary de Medicis settled a pension of 500 crowns upon our poet, who died at Paris in 1628. The best and most complete edition of his poetical works is that of 1666, with Menage's remarks. Malherbe so far excelled all the French poets who preceded him, that Boileau considers him as the father of French poetry: but he composed with great difficulty, and put his mind on the rack in correcting what he wrote. He was a man of a singular humour, and blunt in his behaviour. When the poor used to promise him, that, that they would pray to God for him, he answered them, that "he did not believe they could have any great interest in heaven, since they were left in such a bad condition upon earth; and that he should be better pleased if the duke de Luynes, or some other favourite, had made him the same promise." He would often say that "the religion of gentlemen was that of their prince." During his last sickness he had much ado to resolve to confess to a priest; for which he gave this facetious reason, that "he never used to confess but at Easter." And some few moments before his death, when he had been in a lethargy two hours, he awaked on a sudden to reprove his landlady, who waited on him, for using a word that was not good French; saying to his confessor, who reprimanded him for it, that "he could not help it, and he would defend the purity of the French language to the last moment of his life."

MALICE, in *Ethics* and *Law*, is a formed design of doing mischief to another; it differs from hatred. In murder, it is malice makes the crime; and if a man, having a malicious intent to kill another, in the execution of his malice kills a person not intended, the malice shall be connected to his person, and he shall be adjudged a murderer. The words *ex malitia præcogitata* are necessary to an indictment of murder, &c. And this *malitia præcogitata*, or *malice præpensæ*,



Malignant  
||  
Mallet.

may be either exprefs or implied in law. Exprefs malice is, when one, with a fedate, deliberate mind, and formed defign, kills another; which formed defign is evidenced by external circumftances difcovering that intention; as lying in wait, antecedent menaces, former grudges, and concerted fchemes to do him fome bodily harm. Befides, where no malice is expreffed, the law will imply it; as where a man wilfully poifons another, in fuch a deliberate act the law prefumes malice, though no particular enmity can be proved. And if a man kills another fuddenly, without any, or without a confiderable provocation, the law implies malice; for no perfon, unlefs of an abandoned heart, would be guilty of fuch an act upon a flight or no apparent caufe.

**MALIGNANT**, among phyficians, a term applied to difeafes of a very dangerous nature, and generally infectious; fuch are the dysentery, hofpital-fever, &c. in their worft ftages.

Malignity among phyficians fignifies much the fame with contagion. See **CONTAGION**.

**MALL**, **SEA-MALL**, or *Sea-mew*. See **LARUS**, **ORNITHOLOGY** *Index*.

**MALLARD**. See **ANAS**, **ORNITHOLOGY** *Index*.

**MALLEABLE**, a property of metals, whereby they are capable of being extended under the hammer.

**MALLENDERS**. See **FARRIERY** *Index*.

**MALLEOLI**, in the ancient art of war, were bundles of combuftible materials, fet on fire to give light in the night, or to annoy the enemy; when they were employed for the latter purpofe they were fhut out of a bow, or fixed to a javelin, and thus thrown into the enemies engines, fhips, &c. in order to burn them. Pitch was always a principal ingredient in the compofition. The malleoli had alfo the name of *pyroboli*.

**MALLET**, or **MALLOCH**, *David*, an Englifh poet, but a Scotfman by birth, was born in that country about 1700. By the penury of his parents, he was compelled to be janitor of the high fchool at Edinburgh; but he furmounted the difadvantages of his birth and fortune; for when the duke of Montrofe applied to the college of Edinburgh for a tutor to educate his fons, Malloch was recommended. When his pupils went abroad, they were intrufted to his care; and having conducted them through their travels, he returned with them to London. Here, refiding in their family, he naturally gained admiffion to perfons of high rank and character; and began to give fpecimens of his poetical talents. In 1733, he publifhed a poem on verbal Criticifm, on purpofe to make his court to Pope. In 1740, he wrote a Life of Lord Bacon, which was then prefixed to an edition of his works; but with fo much more knowledge of hiftory than of fciences, that, when he afterwards undertook the Life of Marlborough, fome were apprehenfive left he fhould forget that Marlborough was a general, as he had forgotten that Bacon was a philofopher. The old duchefs of Marlborough affigned in her will this tafk to Glover and Mallet, with a reward of 1000l. and a prohibition to infert any verfes. Glover is fuppofed to have rejected the legacy with difdain, fo that the work devolved upon Mallet; who had alfo a penfion from the late duke of Marlborough to promote his induftry, and who was continually talking of the difcoveries he made, but left

Mallet.

not when he died any hiftorical labours behind. When the prince of Wales was driven from the palace, and kept a feparate court by way of oppofition, to increafe his popularity by patronizing literature, he made Mallet his under fecretary, with a falary of 200l. a year.—Thomfon likewife had a penfion; and they were affociated in the compofition of the *Mafque of Alfred*, which in its original ftate was played at Cliefden in 1740. It was afterwards almoft wholly changed by Mallet, and brought upon the ftage of Drury Lane in 1751, but with no great fuccefs. He had before publifhed two tragedies; *Eurydice*, acted at Drury Lane in 1731; and *Mustapha*, acted at the fame theatre in 1739. It was dedicated to the prince his mafter, and was well received, but never was revived. His next work was *Amyntor*, and *Theodora* (1747), a long ftory in blank verfe; in which there is copioufnefs and elegance of language, vigour of fentiment, and imagery well adapted to take poffeffion of the fancy. In 1753, his mafque of *Britannia* was acted at Drury Lane, and his tragedy of *Elvira* in 1763; in which year he was appointed keeper of the book of entries for fhips in the port of London. In the beginning of the laft war, when the nation was exasperated by ill fuccefs, he was employed to turn the public vengeance upon Byng, and wrote a letter of accufation under the character of a Plain Man. The paper was with great induftry circulated and difperfed; and he for his feafonable intervention had a confiderable penfion beftowed upon him, which he retained to his death. Towards the end of his life he went with his wife to France; but after a while, finding his health declining, he returned alone to England, and died in April 1765. He was twice married, and by his firft wife had feveral children. One daughter, who married an Italian of rank named Cilefia, wrote a tragedy called *Almida*, which was acted at Drury Lane. His fecond wife was the daughter of a nobleman's fteward, who had a confiderable fortune, which she took care to retain in her own hands. His ftature was diminutive, but he was regularly formed; his appearance, till he grew corpulent, was agreeable, and he fuffered it to want no recommendation that drefs could give it. His converfation was elegant and eafy.

**MALLET**, *Edme*, was born at Melun in 1713, and enjoyed a curacy in the neighbourhood of his native place till 1751, when he went to Paris to be profeflor of theology in the college of Navarre, of which he was admitted a doctour. Boyer, the late bifhop of Mirepoix, was at firft much prejudiced againft him; but being afterwards undeceived, he conferred upon him the fee of Verdun as a reward for his doctrine and morals. Jansenifm had been imputed to him by his enemies with this prelate; and the gazette which went by the name of *Ecclefiaftical*, accufed him of impiety. Either of thefe imputations was equally undeferved by the abbé Mallet: as a Chriftian, he was grieved at the difputes of the French church; and, as a philofopher, he was aftonifhed that the government had not, from the very beginning of thofe diffenfions impofed filence on both parties. He died at Paris in 1755, at the age of 42. The principal of his works are, 1. *Principes pour la lecture des Poëtes*, 1745, 12mo, 2 vols. 2. *Effai fur l'Etude des Belles Lettres*, 1747, 12mo.



Mallet,  
Mallicollo.

12mo. 3. *Essai sur les bienfaisances oratoires*, 1753, 12mo. 4. *Principes pour la lectures des Orateurs*, 1753, 12mo. 3 vols. 5. *Histoire des Guerres civiles de France sous les regnes de François II. Charles IX. Henri III. et Henry IV.* translated from the Italian of d'Avila.— In Mallet's work on the Poets, Orators, and the Belles Lettres, his object is no more than to explain with accuracy and precision the rules of the great masters, and to support them by examples from authors ancient and modern. The style of his different writings, to which his mind bore a great resemblance, was neat, easy, and unaffected. But what must render his memory estimable, was his attachment to his friends, his candour, moderation, gentleness, and modesty. He was employed to write the theological and belles lettres articles in the *Encyclopédie*; and whatever he wrote in that dictionary was in general well composed. Abbé Mallet was preparing two important works when the world was deprived of him by death. The first was *Une Histoire generale de nos Guerres depuis le commencement de la Monarchie*; the second, *Une Histoire de Concile de Trente*, which he intended to set in opposition to that of Father Paul translated by Father le Courayer.

MALLET, a large kind of hammer made of wood; much used by artificers who work with a chisel, as sculptors, masons, and stone-cutters, whose mallet is ordinarily round; and by carpenters, joiners, &c. who use it square. There are several sorts of mallets used for different purposes on ship-board. The calking mallet is chiefly employed to drive the oakum into the seams of a ship, where the edges of the planks are joined to each other in the sides, deck, or bottom. The head of this mallet is long and cylindrical, being hooped with iron to prevent it from splitting in the exercise of calking. There is also the serving mallet, used in serving the rigging, by binding the spun-yarn more firmly about it than it could possibly be done by hand, which is performed in the following manner; the spun-yarn being previously rolled up in a large ball or clue, two or three turns of it are passed about the rope, and about the body of the mallet, which for this purpose is furnished with a round channel in its surface, that conforms to the convexity of the rope intended to be served. The turns of the spun-yarn being strained round the mallet, so as to confine it firmly to the rope, which is extended above the deck, one man passes the ball continually about the rope, whilst the other, at the same time, winds on the spun-yarn by means of the mallet, whose handle, acting as a lever strains every turn about the rope as firm as possible.

MALLICOLLO, one of the largest of the New Hebrides, in the Pacific ocean. It extends twenty leagues from north to south. Its inland mountains are very high, and clad with forests. Its vegetable productions are luxuriant, and in great variety; cocoa-nuts, breadfruit, bananas, sugar-canes, yams, eddoes, turmeric, and oranges. Hogs and common poultry are the domestic animals. The inhabitants appear to be of a race totally distinct from those of the Friendly and Society islands. Their form, language, and manners, are widely different. They seem to correspond in many particulars with the natives of New Guinea, particularly in their black colour and woolly hair. They go almost naked, are of a slender make, have lively but

very irregular ugly features, and tie a rope fast round their belly. They use bows and arrows as their principal weapons, and the arrows are said to be sometimes poisoned. They keep their bodies entirely free from punctures, which is one particular that remarkably distinguishes them from the other tribes of the Pacific ocean.

The population, according to Mr Forster, may amount to 50,000, who occupy 600 square miles of ground. The same author informs us that very few women were seen, but that those few were no less ugly than the men, were of small stature, and their heads, faces, and shoulders were painted red. They had bundles on their backs containing their children, and the men seemed to have no kind of regard for them. They appeared in fact to be oppressed, despised, and in a state of servility.

The men use bows and arrows, and a club about 30 inches long, which they hang on their right shoulder, from a thick rope made of a kind of grass. They live chiefly on vegetables, and apply themselves to husbandry. Their music had nothing remarkable in it, either for harmony or variety, but seemed to Mr Forster to be of a more lively turn than that at the Friendly islands. In some of their countenances he thought he could trace a mischievous, ill-natured disposition, but he confesses that he might mistake jealousy for hatred. It is in 16° 28' S. Lat. and 167° 56' E. Long.

MALLOW, a manor, and also a borough town in the county of Cork, and province of Munster, in Ireland, above 118 miles from Dublin, pleasantly situated on the north bank of the Blackwater, over which there is an excellent stone bridge. Not far distant is a fine spring of a moderately tepid water, which bursts out of the bottom of a fine limestone rock, and approaches the nearest in all its qualities to the hot-well waters of Bristol of any that has been yet discovered in this kingdom, which brings a resort of good company there frequently in the summer months, and has caused it to be called the *Irish Bath*.

MALLOW. See MALVA, BOTANY Index.

Marsh-MALLOW. See ALTHÆA, BOTANY Index.

Indian-MALLOW. See SIDA, BOTANY Index.

MALMSBURY, a town of Wiltshire in England, 95 miles from London. It stands on a hill, with six bridges over the river Avon at the bottom; with which and a brook that runs into it, it is in a manner encompassed. It formerly had walls and a castle, which were pulled down to enlarge the abbey, which was the biggest in Wiltshire, and its abbots sat in parliament. The Saxon king Athelstan granted the town large immunities, and was buried under the high altar of the church, and his monument still remains in the nave of it. The memory of Aldhelm, its first abbot, who was the king's great favourite, and whom he got to be canonized after his death, is still kept up by a meadow near this town, called Aldhelm's Mead. By charter of King William III. the corporation consists of an alderman, who is chosen yearly, 12 capital burgesses, and 4 assistants, landholders and commons. Here is an alms-house for 4 men and 4 women, and near the bridge an hospital for lepers, where it is supposed there was formerly a nunnery. This town drives a considerable trade in the woollen manufactory;

Mallow,  
Malmbury.



Malmſbury, has a market on Saturday, and three fairs. It has ſent members to parliament ever ſince the 26th of Edward I.

*William of MALMSBURY.* See WILLIAM.

MALO, ST, a ſea-port town of France, in the province of Brittany, ſituated in the latitude of 48 degrees 38 minutes north, and 1 degree 57 minutes to the weſt. The town ſtands upon a rock called the iſland of St Aaron, ſurrounded by the ſea at high water, which is now joined to the continent, by means of a fort of cauſeway or dike, near a mile long, called the Sillon, which has often been damaged by ſtorms, and was almoſt quite ruined in the year 1730. At the end of this cauſeway next the town is a caſtle, flanked with large towers, a good ditch, and a large baſtion. The city nearly covers the whole ſurface of the iſland, and is of an oblong form, ſurrounded with a ſtrong rampart, on which there is a number of cannon.— There is always in it a good gariſon. The cathedral church is dedicated to St Vincent, and ſtands in the ſquare of the ſame name, as do alſo the town-houſe and the episcopal palace. There are ſome other ſquares in the place, but leſs remarkable; and as to the ſtreets, except two or three, they are all very narrow. There being no ſprings of freſh water in St Malo, the inhabitants are at great pains to convey the rain which falls on the roofs of their houſes into ciſterns; and of this they have enough for all family uſes. There is only one pariſh church in the town, though it contains between 9000 and 10,000 inhabitants; but there are ſeveral convents of monks and nuns, and a general hospital. The two entrances into the harbour are defended by ſeveral forts, ſuch as that of the Conchal; of the great and the little bay; the forts of Iſle Rebour, Sezembre, Roteneuf; the caſtle of Latte, and Fort-Royal. Theſe are ſeveral little iſles near the harbour, the moſt conſiderable whereof is that of St Sezembre, which is near a quarter of a league in circumference, and ſerve as ſo many outworks to the fortiſications of the city, and are uſeful as bulwarks, by breaking the violence of the waves, which otherwiſe would beat with great force againſt the walls of the city. At the end of the cauſeway next the continent ſtands the ſuburb of St Servant, large and well built. Here the merchants have their houſes and ſtorehouſes. Here is the dock-yard; and a ſecure harbour is formed by the river Rance, where ſhips of great burden can ride at anchor very near the houſes. The harbour is one of the beſt in the kingdom, and moſt frequented by merchant ſhips; but it is of very difficult and dangerous acceſs on account of the rocks which lie round it. The town of St Malo is exceedingly well ſituated for trade; and accordingly, in this reſpect, it has ſucceeded beyond moſt towns in France. It maintains a trade with England, Holland, and Spain.— The commerce of Spain is of all the moſt conſiderable, and moſt profitable to the inhabitants of St Malo, the ſhips of the Malouins being frequently employed as regiſter ſhips by the Spaniards, to carry out the rich cargoes to Peru and Mexico, and bring home treaſure and plate from America. The inhabitants of St Malo carry on alſo a conſiderable trade in dry and ſalted cod to Newfoundland. They ſend to this fiſhery a good many veſſels from 100 to 300 tons burden, with ſalt for the fiſh, and proviſions for ſub-

ſiſting the crews. They carry their fiſh to Italy, Spain, and ſome to Bourdeaux and Bayonne, and bring home the returns in fruits, ſoap, oil, &c. which are diſpoſed of to great advantage at Nantz. St Malo is the capital of the biſhopric of that name, which is of conſiderable extent; and the ſoil about it produces moſt kinds of grain and fruits in great abundance. The moſt remarkable towns in the diſtrict and dioceſe of St Malo, are St Servand, Cancellé, Chateaneuf, Dinan, Tintiniac, Combourg, Montfort, Breal, Guer, Ploermel, Joffelin, &c.

MALO, MACLOU, or *Mahout*, SAINT, the ſon of an Engliſhman, and couſin to St Magloire, was educated in a monaſtery in Ireland, and afterwards choſen biſhop of Gui-Caſtel, a dignity which his humility prevented him from accepting. The people wiſhing to compel him, he went to Brittany, and put himſelf under the direction of a holy anchoret called Aaron, in the neighbourhood of Aleth. Some time after, about the year 541, he was choſen biſhop of that city, and there cultivated piety and religion with great ſucceſs. He afterwards retired to a ſolitude near Xaintes, where he died November 15. 565. From him the city of St Malo derives its name; his body having been carried thither, after the reduction of Aleth to a ſmall village called *Guidalet* or *Guichalet*, and the tranſference of the episcopal ſee to St Malo.

MALOUIN, PAUL-JAQUES, born at Caen in 1701, was profeſſor of medicine in the royal college of Paris, phyſician in ordinary to the queen, and a member of the Royal Society of London, and of the Academy of Sciences of Paris. Theſe ſtatons were a proper reward for his very extenſive information in medicine and chemiſtry; and his amiable and ſteady character procured him many friends and protectors. He was very unlike ſome modern phyſicians, who put little truſt in medicine; and was greatly diſpleaſed to hear any ill ſpoken of his profeſſion. He obſerved one day to a young man who took this liberty, that all great men had reſpected medicine: *Ah!* ſaid the young fellow, *you muſt at leaſt except from the liſt one Moliere.* But then, inſtantly replied the doctor, *you ſee he is dead.* He is ſaid to have believed the certainty of his art as firmly as a mathematician does that of geometry. Having preſcribed a great many medicines for a celebrated man of letters, who followed his directions exactly, and was cured, Malouin eagerly embraced him, ſaying, *You deſerve to be ſick.* As he valued the rules of medicine ſtill more on his own account than on that of others, he obſerved, eſpecially in the latter part of his life, a very auſtere regimen. He ſtrictly practiſed the preſervative part of medicine, which is much more certain in its effects than the reſtorative. To this regimen Malouin was indebted, for what many philoſophers have deſired in vain, a healthy old age and an eaſy death. He was a ſtranger to the infirmities of age; and died at Paris of an apoplexy, the 3d of January 1778, in the 77th year of his age. By his will he left a legacy to the faculty of medicine, upon condition of their holding a public meeting every year for the purpoſe of giving the public an account of his labours and diſcoveries. Malouin was economical, but at the ſame time very diſintereſted. After two years of very lucrative practice, he left Paris and went to Verſailles, where he ſaw very few patients, obſerving that

Malo,  
Malouin.



Malpas,  
Malpla-  
quet.

that he had retired to the court. His principal works are, 1. *Traité de Chimie*, 1734, 12mo. 2. *Chimie Medicinale*, 2 vols. 12mo, 1755; a book full of curious observations, and written in a chaste and well adapted style. He had the character of a laborious chemist; and he was a well-informed and even a distinguished one for the age in which he lived: but his knowledge of chemistry, it must be confessed, was very imperfect, compared with the state of the science in the present age, in which it has assumed a new face, that probably will not be the last. 3. Some of the articles in the Collection published by the Academy of Sciences on the arts and professions. A circumstance which happened at a meeting of the academy does as much honour to his heart, as any of his works do to his understanding. A new treatise on the art of baking, wherein some of Malouin's ideas were combated, was read by M. Parmentier before his fellows, among whom was the old doctor. The young academician, who knew how easily self-love is hurt, was afraid to meet his looks: but no sooner was the reading finished, than Malouin went up to him, and embracing him, "Receive my respects (said he), you have seen farther into the subject than I did." 4. He was likewise the author of the chemical articles in the *Encyclopédie*.

Of the same family was Charles MALOUIN, who graduated as a doctor of medicine in the university of Caen, and died in 1718 in the flower of his age. He published a Treatise on Solids and Fluids, Paris 1718, 12mo.

MALPAS, a town of Cheshire, 166 miles from London. It stands on a high hill, not far from the river Dee, on the borders of Shropshire; has a grammar school, and an hospital, and had formerly a castle. It is called in Latin *Mala Platea*, i. e. "Ill Street," and was, for the same reason, by the Normans, called *Mal Pas*; but its three streets, of which it chiefly consists, are now well paved; and here is a benefice rich enough to support two rectors, who officiate alternately in its stately church. It has a good market on Mondays, and three fairs in the year.

MALPIGHI, MARCELLUS, an eminent Italian physician and anatomist in the 17th century. He studied under Massari and Mariano. The duke of Tuscany invited him to Pisa, to be professor of physic there. In this city he contracted an intimate acquaintance with Borelli, to whom he ascribed all the discoveries he had made. He went back to Bologna, the air of Pisa not agreeing with him. Cardinal Antonio Pignatelli, who had known him while he was legate at Bologna, being chosen pope in 1691, under the name of *Innocent XII*. immediately sent for him to Rome, and appointed him his physician. But this did not hinder him from pursuing his studies, and perfecting his works, which have immortalized his memory. He died in 1694; and his works, with his life written by himself, prefixed, were first collected and printed at London, in folio, in 1667.

MALPIGHIA, BARBADOES CHERRY; a genus of plants belonging to the decandria class; and in the natural method ranking under the 23d order, *Trihilata*. See BOTANY Index.

MALPLAQUET, a village of the Netherlands, in Hainault, famous for a most bloody battle fought here

on the 11th of September 1709, between the French under old Marshal Villars, and the allies commanded by Prince Eugene and the duke of Marlborough. The French army amounted to 120,000 men; and were posted behind the woods of La Marte and Teniers, in the neighbourhood of Malplaquet. They had fortified their situation in such a manner with lines, hedges, and trees laid across, that they seemed to be quite inaccessible. In this situation they expected certain victory; and even the common soldiers were so eager to engage, that they flung away the bread which had been just given them, though they had taken no sustenance for a whole day before. The allied army began the attack early in the morning, being favoured by a thick fog. The chief fury of their impression was made upon the left of the enemy; and with such success, that, notwithstanding their lines and barricades, the French were in less than an hour driven from their entrenchments. But on the enemy's right the combat was sustained with much greater obstinacy. The Dutch, who carried on the attack, drove them from their first line; but were repulsed from the second with great slaughter. The prince of Orange, who headed that attack, persisted in his efforts with incredible perseverance and intrepidity, though two horses had been killed under him, and the greater part of his officers slain and disabled. At last, however, the French were obliged to yield up the field of battle; but not till after having sold a dear-bought victory. Villars being dangerously wounded, they made an excellent retreat under the conduct of Boufflers, and took post near Guesnoy and Valenciennes. The conquerors took possession of the field of battle, on which above 20,000 of their best troops lay dead. The loss of the French, it is said, did not exceed 8000; and Marshal Villars confidently asserted, that, if he had not been disabled, he would have gained an undoubted victory.

MALT denotes barley cured, or prepared to fit it for making a potable liquor, under the denomination of beer or ale. See BREWING.

MALT-Liquors have different names as well as different virtues, properties, and uses, both from the different manners of preparing the malt, whence they are distinguished into *pale* and *brown*; and from the different manners of preparing or brewing the liquors themselves; whence they are divided into *beer* and *ale*, *strong* and *small*, *new* and *old*.

Malt drinks are either pale or brown, as the malt is more or less dried on the kiln: that which is the slenderest dried tinging the liquor least in brewing, and therefore being called *pale*; whereas that higher dried, and as it were roasted, makes it of a higher colour. A mixture of both these makes an amber colour; whence several of these liquors take their name.

Now, it is certain, the pale malt has most of the natural grain in it, and is therefore the most nourishing; but, for the same reason, it requires a stronger constitution to digest it. Those who drink much of it, are usually fat and sleek in their bloom, but are often cut off by sudden fevers; or, if they avoid this, they fall early into a distempered old age.

The brown malt makes a drink much less viscid, and fitter to pass the several strainers of the body; but, if very strong, it may lead on to the same inconveni-

Malpla-  
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Malt.



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ces with the pale: though a single debauch wears off much more easily in the brown.

Dr Quincy observes, that the best pale malt-liquors are those brewed with hard waters, as those of springs and wells, because the mineral particles, wherewith these waters are impregnated, help to prevent the cohesions of those drawn from the grain, and enable them to pass the proper secretions the better; as the viscid particles of the grain do likewise defend these from doing the mischief they might otherwise occasion. But softer waters seem best suited to draw out the substance of high dried malts, which retain many fiery particles in their contexture, and are therefore best lost in a smooth vehicle.

For the differences in the preparation of malt liquors, they chiefly consist in the use of hops, as in beer; or in the more sparing use of them, as in ale.

The difference made by hops is best discovered from the nature and quality of the hops themselves: these are known to be a subtle grateful bitter; in their composition, therefore, with this liquor, they add somewhat of an alkaline nature, i. e. particles that are sublimed, active, and rigid. By which means, the rosy viscid parts of the malt are more divided and subtilized: and are therefore not only rendered more easy of digestion and secretion in the body, but also, while in the liquor, they prevent it from running into such cohesions as would make it rosy, vapid, and sour.

For want of this, in unhopped drinks, that clammy sweetness, which they retain after working, soon turns them acid and unfit for use; which happens sooner or later in proportion to the strength they receive from the malt, and the comminution that has undergone by fermentation.

The different strengths of malt liquors also make their effects different. The stronger they are, the more viscid parts they carry into the blood; and though the spirituous parts make these imperceptible at first; yet when those are evaporated, which will be in a few hours, the other will be sensibly felt by pains in the head, nausea at the stomach, and lassitude or listlessness to motion. This those are the most sensible of who have experienced the extremes of drinking these liquors and wines; for a debauch of wine they find much sooner worn off, and they are much more lively and brisk afterwards, than after fuddling malt liquors, whose viscid remains will be long before they be shaken off.

Malt liquors, therefore, are, in general, the more wholesome for being small; i. e. of such a strength as is liable to carry a small degree of warmth into the stomach, but not so great as to prevent their being proper diluters of the necessary food. Indeed, in robust people, or those who labour hard, the viscidities of the drink may be broken into convenient nourishment; but in persons of another habit and way of living, they serve rather to promote obstructions and ill humours.

The age of malt liquors is the last thing by which they are rendered more or less wholesome. Age seems to do nearly the same thing as hops; for those liquors which are longest kept are certainly the least viscid; age breaking the viscid parts, and by degrees rendering them smaller, and finer for secretion.

But this is always determined according to their

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strength; in proportion to which, they will sooner or later come to their full perfection as well as decay; for, when ale or beer is kept till its particles are broken and comminuted as far as they are capable, then it is that they are best; and, beyond this, they will be continually on the decay, till the finer spirits are entirely escaped, and the remainder becomes vapid and sour.

*MALT-Distillery.* This is an extensive article of trade; and by which very large fortunes are made. The art is to convert fermented malt liquors into a clear inflammable spirit, which may be either sold for use in the common state of a proof strength, that is, the same strength with French brandy; or is rectified into that purer spirit usually sold under the name of *spirit of wine*; or made into compound cordial waters, by being distilled again from herbs and other ingredients. See BREWING and WASH.

To brew with malt in the most advantageous manner, it is necessary, 1. That the subject be well prepared; 2. That the water be suitable and duly applied; and, 3. That some certain additions be used, or alterations made, according to the season of the year, and the intention of the operator: and by a proper regulation in these respects, all the fermentable parts of the subject will thus be brought into the tincture, and become fit for fermentation.

The due preparation of the subject consists in its being justly malted and well ground. When the grain is not sufficiently malted, it is apt to prove hard, so that the water can have but very little power to dissolve its substance; and if it be too much malted, a part of the fermentable matter is lost in that operation. The harder and more stinty the malt is, the finer it ought to be ground; and in all cases, when intended for distillation, it is advisable to reduce it to a kind of finer or coarser meal. When the malt is thus ground, it is found by experience that great part of the time, trouble, and expence of the brewing is saved by it, and yet as large a quantity of spirit will be produced; for thus the whole substance of the malt may remain mixed among the tincture, and be fermented and distilled among it. This is a particular that very well deserves the attention of the malt distiller as that trade is at present carried on; for the despatch of the business, and the quantity of spirit procured, is more attended to than the purity or perfection of it.

The secret of this matter depends upon the thoroughly mixing or briskly agitating and throwing the meal about, first in cold and then in hot water; and repeating this agitation after the fermentation is over, when the thick turbid wash being immediately committed to the still already hot and dewy with working, there is no danger of burning, unless by accident, even without the farther trouble of stirring, which in this case is found needless, though the quantity be ever so large, provided that requisite care and cleanliness be used; and thus the business of brewing and fermenting may very commodiously be performed together, and reduced to one single operation. Whatever water is made choice of, it must stand in a hot state upon the prepared malt, especially if a clear tincture be desired; but a known and very great inconvenience attends its being applied too hot, or too near

to



*Malt.* to a state of boiling, or even scalding with regard to the hand. To save time in this case, and to prevent the malt running into lumps and clods, the best way is to put a certain measured quantity of cold water to the malt first; the malt is then to be stirred very well with this, so as to form a sort of thin uniform paste or pudding; after which the remaining quantity of water required may be added in a state of boiling, without the least danger of making what, in the distiller's language, is called a *pudden*.

In this manner the due and necessary degree of heat in the water, for the extracting all the virtues of the malt, may be hit upon very expeditiously, and with a great deal of exactness, as the heat of boiling water is a fixed standard which may be let down to any degree by a proportionate mixture of cold water, due allowances being made for the season of the year, and for the temperature of the air.

This little obvious improvement, added to the method just above hinted for the reducing brewing and fermentation to one operation, will render it practicable to very considerable advantage, and the spirit improved in quality as well as quantity.

A much more profitable method than that usually practised for the fermenting malt for distillation, in order to get its spirit, is the following: Take ten pounds of malt reduced to a fine meal, and three pounds of common wheat meal: add to these two gallons of cold water, and stir them well together; then add five gallons of water, boiling hot, and stir altogether again. Let the whole stand two hours, and then stir it again; and when grown cold, add to it two ounces of solid yeast, and set it by loosely covered in a warmish place to ferment.

This is the Dutch method of preparing what they call the *wash for malt spirit*, whereby they save much trouble and procure a large quantity of spirit: thus commodiously reducing the two businesses of brewing and fermenting to one single operation. In England the method is to draw and mash for spirit as they ordinarily do for beer, only instead of boiling the wort, they pump it into large coolers, and afterwards run it into their fermenting backs, to be there fermented with yeast. Thus they bestow twice as much labour as is necessary, and lose a large quantity of their spirit by leaving the gross bottoms out of the still for fear of burning.

All simple spirits may be considered in the three different states of low wines, proof spirit, and alcohol, the intermediate degrees of strength being of less general use; and they are to be judged of only according as they approach to or recede from these. Low wines at a medium contain a sixth part of pure inflammable spirit, five times as much water as spirit necessarily arising in the operation with a boiling heat. Proof goods contain about one half of the same totally inflammable spirit; and alcohol entirely consists of it.

Malt low wines, prepared in the common way, are exceeding nauseous; they have, however, a natural vinosity or pungent agreeable acidity, which would render the spirit agreeable to the palate were it not for the large quantity of the gross oil of the malt that abounds in it. When this oil is detained in some measure from mixing itself among the low wines, by

the stretching a coarse flannel over the neck of the still or at the orifice of the worm, the spirit becomes much purer in all respects; it is less fulsome to the taste, less offensive to the smell, and less milky to the eye. When these low wines, in the rectification into proof spirits, are distilled gently, they leave a considerable quantity of this gross fetid oil behind them in the still along with the phlegm; but if the fire be made fierce, this oil is again raised and brought over with the spirit; and being now broken somewhat more fine, it impregnates it in a more nauseous manner than at first. This is the common fault both of the malt distiller and of the rectifier: the latter, instead of separating the spirit from this nasty oil, which is the principal intent of his process, attends only to the leaving the phlegm in such quantity behind, that the spirit may be of a due strength as proof or marketable goods, and brings over the oil in a worse state than before. To this inattention to the proper business of the process, it is owing, that the spirit, after its several rectifications, as they are miscalled, is often found more stinking than when delivered out of the hands of the malt distiller. All this may be prevented by the taking more time in the subsequent distillations, and keeping the fire low and regular; the sudden stirring of the fire, and the hasty way of throwing on the fresh fuel, being the general occasion of throwing up the oil by spurts, where the fire in general, during the process, has not been so large as to do that mischief.

The use of a *balneum mariae*, instead of the common still, would effectually prevent all this mischief, and give a purer spirit in one rectification than can otherwise be procured in ten, or indeed according to the common methods at all.

Malt low wine, when brought to the standard of proof spirit, loses its milky colour, and is perfectly clear and bright, no more oil being contained in it than is perfectly dissolved by the alcohol, and rendered miscible with that proportion of phlegm, which is about one half the liquor: its taste also is cleaner, though not more pleasant; there being less of the thick oil to hang on the tongue than its own form; which is not the case in the low wines, where the oil being undissolved, adheres to the mouth in its own form, and does not pass lightly over it.

When proof spirit of malt is distilled over again, in order to be rectified into alcohol, or, as we usually call it, spirits of wine, if the fire be raised at the time when the fumes begin to fall off, a very considerable quantity of oil will be raised by it, and will run in the visible form of oil from the nose of the worm. This is not peculiar to malt spirit; but the French brandy shows the same phenomenon, and that in so great a degree, that half an ounce of this oil may be obtained from a single piece of brandy.

Malt spirit, more than any other kind, requires to be brought into the form of alcohol, before it can be used internally, especially as it is now commonly made up in the proof state, with as much of this nauseous and viscous oil as will give it a good crown of bubbles. For this reason it ought to be reduced to an alcohol, or totally inflammable spirit, before it is admitted into any of the medicinal compositions. If it be used without this previous caution, the taste of the malt oil will



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be distinguished among all the other flavours of the ingredients.

A pure spirit being thus procured, should be kept carefully in vessels of glass or stone, well stopp'd, to prevent the evaporation of any of its volatile parts. If preserved in casks, it is apt to impregnate itself very strongly with the wood. The quantity of pure alcohol obtainable from a certain quantity of malt, differs according to the goodness of the subject, the manner of the operation, the season of the year, and the skilfulness of the workmen; according to which variations, a quarter of malt will afford from eight or nine to 13 or 14 gallons of alcohol. This should encourage the malt distiller to be careful and diligent in his business, as so very large a part of his profit depends wholly on the well-conducting his processes.

After every operation in this business, there remains a quantity of fainst, which in their own coarse state ought never to be admitted into the pure spirit; these are to be saved together, and large quantities of them at once wrought into alcohol. It is easy to reduce these to such a state that they will serve for lamp-spirits. Their disagreeable flavour being corrected by the adding of aromatics during the distillations, the reducing them into a perfect and pure alcohol is practicable, but not without such difficulties as render it scarcely worth the trader's while. One way of doing it is by distilling them from water into water, and that with a very slow fire. By this means a pure alcohol may be made out of the foulest fainst.

The malt distiller always gives his spirit a single rectification *per se*, in order to purify it a little, and make it up proof; but in this state it is not to be reckoned fit for internal uses, but serves to be distilled into geneva and other ordinary compound strong waters for the vulgar.

The Dutch who carry on a great trade with malt spirit, never give it any farther rectification than this; and it is on this account that the malt spirit of England is in general so much more in esteem. The Dutch method is only to distil the wash into low wines, and then to full proof spirit; they then directly make it into geneva, or else send it as it is to Germany, Guinea, and the East Indies, for the Dutch have little notion of our rectification. Their spirit is by this means rendered very foul and coarse, and is rendered yet more nauseous by the immoderate use they make of rye meal. Malt spirit, in its unrectified state, is usually found to have the common bubble proof, as the malt distiller knows that it will not be marketable without it.

The whole matter requisite to this is, that it have a considerable portion of the gross oil of the malt well broke and mixed along with it; this gives the rectifier a great deal of trouble if he will have the spirit fine; but in the general run of the business, the rectifier does not take out this oil, but breaks it finer, and mixes it faster in by alkaline salts, and disguises its taste by the addition of certain flavouring ingredients. The spirit loses in these processes the vinosity it had when it came out of the hands of the malt distiller, and is in all respects worse, except in the disguise of a mixed flavour.

The alkaline salts used by the rectifier destroying the natural vinosity of the spirit, it is necessary to add

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an extraneous acid in order to give it a new one. The acid they generally use is the spiritus nitri dulcis; and the common way of using it is the mixing it to the taste with the rectified spirit: this gives our malt spirit, when well rectified, a flavour somewhat like that of French brandy, but this soon flies off; and the better method is to add a proper quantity of Glauber's strong spirit of nitre to the spirit in the still. The liquor in this case comes over impregnated with it, and the acid being more intimately mixed, the flavour is retained.

*MALT-Bruifer, or Bruising-mill.* It has been found by repeated experiments, that bruising malt is a more advantageous method than the old one of grinding and flouring. By bruising, there is not only less waste, but the malt is also better fitted for giving out all its virtues. It has therefore become a practice to squeeze malt between rollers, by means of a proper apparatus, of which various constructions have been invented. One of the best contrivances of this sort is said to be the bruising-mill of Mr Winlaw, which consists of a frame, a large cylinder or roller, a small roller, a hopper, a shoe, a frame to support the hopper, a fly wheel, and a windlas. To use this engine, it is directed to screw the large roller up to the small one, and not to feed too fast from the shoe, which is regulated by pins that have strings fixed to them. It is evident, that when two smooth surfaces are opposed to each other at a distance which can be regulated at pleasure, neither grain nor any other similar substance can pass between them without being bruised. This being the principle on which the bruising-mill acts, the mealy substance, which is the essential part of malt, is entirely removed from the skin or husk which contains it, and all the virtues of the malt are with ease extracted by the water in a manner superior to what is effected when the grain is only cut by grinding. The operation is at the same time so expeditiously performed, that two men can with ease bruise a bushel of malt in a minute. By the same engine may also be bruised oats and beans for horses. A great part of the corn given these animals, it is well known, is swallowed whole, and often passes through them in the same state; in which case, they cannot receive any nourishment from the grains that are unbroken; but when bruised in this engine, it eases mastication; and every grain being prepared for nutrition, a much less quantity will of course be found to be sufficient. For bruising beans, the two regulating screws must be uncrewed a little; and the fly-wheel requires to be then set in motion with the hand, on account that the rollers are then a little space apart, and will not turn each other before the beans come between them.

*MALT-Tax,* is the sum of 750,000*l.* raised every year by parliament since 1697, by a duty of 6*d.* on the bushel of malt, and a proportionable sum on certain liquors, such as cyder and perry, which might otherwise prevent the consumption of malt. This is under the management of the commissioners of the excise; and is indeed itself no other than the annual excise. In 1760, an additional perpetual excise of 3*d.* per bushel was laid upon malt; and in 1763, a proportional excise was laid upon cyder and perry, but new-modelled in 1766. See EXCISE.

*MALTA,* a celebrated island of the Mediterranean, situated



Malta.  
Ancient  
History of  
the island.

Malta situated between the 15th and 16th degrees of east longitude, and between the 35th and 36th degrees of north latitude. It is about 19 or 20 miles in length, nine or ten in breadth, and 60 in circumference. Anciently it was called *Melita*; and is supposed by Cluverius, from its situation and other particulars, to be the Hyperia mentioned by Homer, whence the Phæaces were afterwards driven by the Phenicians, and retired into Scheria and the island of Corfu; which is the more probable, as the ancient poet places the mountain *Melita* in that island. He has likewise brought some probable arguments to prove, that *Melita* or *Malta* is the ancient *Ogygia*; in which the famed nymph *Calypso*, daughter of the Ocean and *Thetis*, received the shipwrecked *Ulysses*, and detained him seven years.

The most ancient possessors of *Malta*, of whom we have any certain account, were the Carthaginians; from whom it was taken by the Romans: and yet during the whole time that it continued under the power of these polite nations it was almost entirely barren. The soil was partly sandy and partly rocky, having scarcely any depth of earth; and withal so stony, that it was hardly capable of producing corn or any other grain except cummin, and some seeds of a similar nature. Its chief products were figs, melons, honey, cotton, and some few other fruits and commodities, which the inhabitants exchanged for corn; and in this barren state it seems to have continued till it came into the possession of the Maltese knights. It laboured also under great scarcity of water and fuel: upon all which accounts it was till that time but thinly inhabited, there being only about 30 or 40 boroughs or other villages scattered about, and no city except the capital, called also *Malta*, and the town and fort of *St Angelo*, which defended the harbour: so that the whole number of its inhabitants did not exceed 12,000, including women and children; the greatest part of whom were very indigent.

According to an ancient tradition, *Malta* was first possessed by an African prince named *Battus*, an enemy to *Queen Dido*; from whom it was taken by the Carthaginians; from the Carthaginians it passed to the Romans, who made themselves masters of it when they subdued the island of *Sicily*. These were driven out by the Arabs in the year 828; who were driven out in their turn by *Roger the Norman*, earl of *Sicily*, who took possession of it in 1190: from which time it continued under the dominion of the Sicilian princes till the time of *Charles V.* when it fell under his power, along with *Naples* and *Sicily*. To cover the island of *Sicily* from the Turks, *Charles* gave the island to the knights of *Rhodes*, since that time called *knights of Malta*, whose origin and history is given under the article *Knights of MALTA and RHODES*.

At the first landing of the Maltese knights, they found themselves obliged to lodge in a very poor town at the foot of the hill on which stands the castle of *St Angelo*, and where their only habitations were fishermen's huts. The grand master, with the principal knights, took possession of the castle, where the accommodations were somewhat better; though these too were very mean, and out of repair. Three days after, he took possession of the city, which was formerly called *Malta*, but since that time hath taken the name of

the *Notable City*; and after that, of the whole island of *Malta*, and the neighbouring one of *Gosa*.

The first care of the knights, after having settled their authority through the two islands, was to provide some better accommodation for the present, and to choose a proper place where to fix their habitation. But as the island had no other defence than the old castle of *St Angelo*, and was so much exposed on all sides, that it would have required greater sums than their exhausted treasury could spare to put it in a proper state of defence; the grand master was obliged to content himself with surrounding the borough above mentioned, wherein he had ordered new buildings to be reared for the present habitation of his knights, with a stout wall, to prevent its being surprised by the Turkish and Barbary corsairs. His design, indeed, at this time, was not to have fixed the abode of the knights in the bare and defenceless island of *Malta*, but to stay in it only till he had got a sufficient force to attempt the conquest of *Modon*, a town of the *Morea*, and which was not only a populous and opulent place, but lay very convenient for making an attempt on the island of *Rhodes*, their ancient habitation, and to which they were naturally attached. This, however, did not hinder his taking all proper measures for securing *Malta* as well as *Gosa*, and laying out a proper plan for securing them from attacks, in case the design on *Modon* should fail.

In the mean time, as superstition was then universally prevalent, the grand master, among other precious relics which they had brought from *Rhodes*, caused the arm of *St Catharine* to be carried in procession to the cathedral. Whilst they were on their march, one of the centinels gave them notice, that a large Turkish merchantman was wrecked on their coast. The grand master immediately despatched some of his knights and soldiers thither; who finding *Isaac* the patron of the ship, a native of *Modon*, and one *Maurithisala Nocher*, an excellent engineer, they were retained in the service of the order, and the latter was immediately employed in fortifying the island.

The knights were hardly settled in *Malta*, when the emperor, and other European potentates, endeavoured to engage them in a war with the inhabitants of *Barbary*, as the city of *Tripoli*, then held by *Charles*, was in great danger of falling into the hands of the infidels. The attempt on *Modon*, however, was first made; but it proved unsuccessful, through the base avarice of the Maltese forces: for they having been admitted into the city, during the night began to murder and plunder the inhabitants, without waiting for the arrival of the galleys which were coming to their assistance. The consequence was, that the inhabitants armed, and a desperate battle began; in which the Maltese, notwithstanding the utmost efforts, were obliged to retire, but not till they had loaded themselves with plunder, and carried away 800 women captive.

The grand master, looking upon this disappointment as a sign that Providence had ordained *Malta* to be the residence of the knights, did not renew his attempts upon *Modon*; but, in 1532, joined with the emperor against the Turks, and sent a great number of his galleys to join the confederate fleet under the celebrated *Andrew Doria*. In consequence of this aid, the undertaking proved successful; and in all probability the

Malta given to the knights of Rhodes.

Malta.

They attempt the conquest of *Modon* without success.

Join the emperor against the Turks.



Malta.

conquest of Malon would have been accomplished, had not the soldiery, discouraged by the bad success of the last attempt, openly refused to proceed, and obliged the emperor to proceed to Coron, another town belonging to the Turks. Through the valour of the Maltese knights, this place was soon obliged to capitulate; and in a second expedition in 1533, the knights again distinguished themselves in a most eminent manner. They were quickly recalled, however, by the grand master to the defence of the island, which was now threatened with an invasion by Barbarossa the celebrated Turkish corsair, who soured those seas at the head of above fourscore galleys. This invasion, however, did not take place; and in 1534 the grand master Villiers de l'Isle Adam died, and was succeeded by Perino de Ponte, a native of the town of Ast in Italy.

The new grand master, who received intelligence of his election at St Euphemia in Calabria, very soon after received another express, giving an account of the wars which at that time reigned in Tunis, and the danger that Tripoli as well as Malta was in from Barbarossa, who was by this time become master both of Algiers and Tunis; upon which he made all the haste he could to his new government. His first care was to send a strong reinforcement to Italy; after which, he despatched an embassy to the emperor, intreating him to equip a powerful fleet against Barbarossa, without which it would be impossible for Tripoli to hold out much longer.

5  
Africa in-  
vaded by  
Ghazis.

By this embassy from De Ponte, and another to the same purpose from Muley Hassan, the deposed king of Tunis, Charles was easily prevailed on to carry his arms into Africa; in which he was assisted by a great number of the bravest knights, together with 18 brigantines of different sizes, four of the best Maltese galleys, and their vessel called the *great carrack*, of itself almost equivalent to a squadron. In this expedition the knights distinguished themselves in a most eminent manner. At the siege of Goletta, one of the knights, named *Conversa*, an excellent engineer, by means of a *barca longa*, got almost close to the great tower, which he furiously battered with large cannon, while the *great carrack*, which was behind all the rest of the vessels, and by reason of its height could fire over them, did prodigious execution. A breach was soon made; and hardly was it wide enough to be scaled, when the Maltese knights jumped out of the galleys into their long-boats: and thence into the sea, with their swords in their hands, and waded through the water above their girdles, it being too shallow for boats to approach the shore. The standard-bearer of the order was the first that jumped into the water, and led the rest to the attack; they claiming everywhere the post of honour. They marched with the greatest resolution through the most terrible firing and showers of all kinds of missile weapons; and, having gained the shore, quickly ascended the breach, on the top of which they planted their great standard. A great number lost their lives, and scarcely one came off un wounded; but the emperor did them the justice to own, that the taking the place was chiefly owing to the valour of the Maltese knights.

The city of Tunis was soon taken after the fortresses of Goletta; on the surrender of which, the emperor,

6  
Desperate  
valour of  
the Maltese  
knights.

defigning to return into Europe, took his last dinner on board the great carrack; where he was magnificently entertained, and bestowed on the surviving knights the greatest encomiums, and marks of his esteem and gratitude to the owner. These he accompanied with considerable presents and with two new grants. By the first, they were allowed to import corn and other provisions from Sicily, without paying duty; and by the second, the emperor engaged, that none of the order should enjoy any of the estates or revenues, due to Maltese knights, throughout all his dominions, unless they were lawfully authorized by the grand master and his council; or till the originals had been examined and registered by himself, or such ministers as he should appoint for that purpose. The fleet then set sail for Malta; where, on their arrival, they received the news of the grand master's death, who was succeeded by Didier de Tolon de St Jalle, a native of Provence, and then grand prior of Thoulouse, where he resided at the time of his election.

Malta.

The present grand master was a man of great conduct and bravery, which he had formerly shown at the siege of Rhodes; and the situation of affairs at this time required a person of experience. The Turkish corsairs, quite tired out with the dreadful havoc made among them by Botigella, grand prior of Pisa, who seldom quitted the sea, and never failed out without sinking some of them, or making considerable prizes, had agreed to enter into a strong confederacy, either to surprize the city of Tripoli where his retreat was, or, if that failed, to lay siege to it by sea and land; in either of which attempts, they were sure of all the assistance of Barbarossa and Hayradin, then lord of Tangiers. This last had undertaken the command and conduct of the whole enterprise; but the governor being informed of the design, prepared to give him a warm reception. Hayradin came thither with his whole force in the dead of the night, and began to scale the walls in those places where he reckoned them to be most defenceless. They no sooner appeared at the foot of them, than the garrison, which had been kept up in arms, poured down such streams of wild-fire, boiling oil, melted lead, &c. and threw such volleys of stones, while the great and small guns so annoyed those that stood farthest off, that great numbers of them were destroyed. They perished in the attack, however, with great fury and vigour, till Hayradin, who was foremost in one of the escalades, was knocked down by a musket-shot from the top of his ladder. He fell into the ditch, and was taken up almost dead; upon which his troops instantly dispersed themselves, and abandoned the enterprise. The governor of Tripoli, however, judging that this would not be the last visit of the kind which in all probability he would receive, immediately despatched an express to Malta, with proposals for fortifying the city, and demolishing a strong tower on that coast named *Alcaid*, which was held by a Turkish corsair. His advice being approved of, the commander Botigella, now general of the galleys, was immediately despatched with a sufficient force; who, having landed his men at Tripoli, immediately marched with them and a body of Arab mercenaries towards Alcaid; and without slaying to open the trenches, or any other covering than his gabions, levelled his artillery against it. Hayradin being informed of this,

7  
Privileges  
conferred  
upon them  
by the em-  
peror.

8  
The Turks  
make an  
unsuccess-  
ful attempt  
on Tripoli.

came



Malta. came with his Turks to its defence; but was intercepted by a strong detachment of Maltese knights at the head of the hired Arabs, and repulsed with loss; so that all he could do was to convey about 50 or 60 Turks into the place, and to annoy the Christians with some slight skirmishes. Botigella, perceiving that his cannon did not make such quick despatch as he wished, sent some of his galleys; under the shelter of which he quickly sprung a mine, which brought down part of the wall, and buried most of the corsairs under it; upon which the rest, seeing the Maltese knights mount the breach sword-in-hand, immediately threw down their arms. The tower was then razed to the ground; after which Botigella marched to a town called *Adakus*, whence he drove Hayradin, who had intrenched himself in it, and gave the plunder to the Arabs. In his return he attacked and took a large Turkish galley, the cargo of which was valued at 160,000 crowns, and had on board 200 persons; so that he landed in triumph, and was received with the loud acclamations of the whole order, who came to meet him on his arrival. Soon after the grand master fell sick and died, and was succeeded by John de Homeides.

Fresh complaints having in 1564 been made to Soliman, he proposed, in a grand council where most of his officers attended, to extirpate the knights altogether. This design was strenuously opposed by Hali, one of Dragut's most experienced captains, who offered the most solid reasons against it; but being overruled by the rest, an expedition against Malta was resolved upon. One of the sultan's first cares was to send some spies, in the disguise of fishermen, to take a full view of the island, who found means to bring him an exact plan of it, with all its fortifications, havens, strength, the number of its inhabitants, &c. whilst he was hastening his armaments against it. By this time, as the Maltese had very little reason to doubt that the Turkish armaments were designed against their island, the viceroy of Sicily, Don Garcia, was ordered by his master to take it in his way to the castle of Goletta, in order to consult with the grand master about the necessary means for opposing such a formidable power. The grand master acquainted him, that, in case of an attack upon Malta, he should want both men and corn: upon which the viceroy engaged to supply him with both on his return to Sicily; in pledge of which he left one of his sons with him, who was afterwards admitted into the order. He was no sooner departed, than the grand master summoned all the knights of the order, dispersed through several parts of Europe, to repair to him. Those that were in Italy raised a body of 2000 foot, to which the viceroy of Sicily added two companies of Spanish forces. All the galleys of the order were employed in transporting these troops, together with all manner of provisions and ammunition, into the island; and the knights that were in it, in distributing, disciplining, and exercising their new levies, as well as the Maltese militia, against the siege. Thus the grand master saw himself strengthened by the arrival of 600 knights, all of whom brought with them retinues of stout good servants, fit to assist in the defence of the island; whilst those, who by reason of age, sickness, or other impediments, could not repair to him, sold their most valuable effects in order to assist him with their purses. The pope, on his

part, contented himself with sending a supply of 10,000 crowns; and the king of Spain ordered his viceroy Don Garcia to raise an army of 20,000 men, to be ready to sail thither as soon as called for. The grand master employed the remainder of his time in visiting all the forts, magazines, arsenals, &c. and assigning to each tongue their several posts, and making all necessary preparations, till the Ottoman fleet appeared in sight on the 18th of May 1565. It consisted of 159 large galleys and galleons, carrying on board 30,000 forces, janizaries and spahis, besides the slaves at the oar, accompanied by a considerable number of other vessels, laden with artillery, ammunition, and other necessaries for a siege. The whole armament was commanded by Mustapha Basha, an old experienced officer, aged about 85 years, and an old favourite and confidant of the sultan; of a haughty cruel temper, who made it a merit to violate his word, and to use all manner of violence against the Christians, especially against the Maltese. This formidable army landed at some distance from Il Borgo, and soon afterwards spread themselves over the country; setting fire to the villages, putting the peasants to the sword, and carrying off such of the cattle as, notwithstanding the orders of the grand master, had not been secured within the forts and towns.

While the Turks were thus employed, La Valette (the grand master) sent out De Copier, marshal of the order, with 200 horse and 600 foot, to watch their motions. De Copier, an officer of great experience, executed his commission with so much prudence and vigour, that, by falling unexpectedly on detached parties, he cut off 1500 Turks, with the loss only of 80 men.

The Turkish general held a council of war as soon as all his troops were landed, to assist him in resolving where he should begin his attack. Piali, the Turkish admiral, agreeably to what he understood to have been the sultan's instruction, was of opinion that they ought not to enter upon action till Dragut should arrive. But Mustapha having received information of the king of Spain's preparations, thought something ought to be done instantly for the safety of the fleet; which lay at present in a creek, where it was exposed to the violence of the east wind, and might be attacked with great advantage by the Spaniards. On this account he was of opinion, that they should immediately lay siege to a fort called *St Elmo*, which stood on a neck of land near Il Borgo, having the principal harbour on one side of it, and on the other another harbour large enough to contain the whole fleet in safety. This proposal was approved by a majority of the council, and Mustapha proceeded without delay to carry it into execution.

La Valette did not expect that a place which was neither strong nor large enough to admit a numerous garrison, could be defended long against so great a force as was employed to reduce it; but he thought it necessary that the siege of this fort should be prolonged as much as possible, in order to give the viceroy of Sicily time to come to his relief. With this view, he resolved to throw himself into *St Elmo*, with a select body of troops; and he was preparing to set out, when the whole body of knights remonstrated with such earnest importunity against his leaving the

TOWN.

Malta.  
9  
The siege  
commen-  
ced.

10  
Desperate  
defence of  
fort St El-  
mo.



Malta.

town, that he at last consented to suffer the reinforcement, which he had prepared, to be conducted to the fort by a knight called *De Medran*, upon whose conduct and intrepidity he could rely with the most assured confidence.

Not long after *De Medran's* arrival in the fort, the garrison made a vigorous sally, in which they drove the enemy from their intrenchments, and put a number of them to the sword. But the rest soon recovered from their surprize; and having returned to the charge, they compelled the Christians to retire. In this encounter, the vigorous efforts of the janizaries were favoured by the wind, which blew the smoke of the guns upon the fort, and covered the besieged with a thick cloud, through which it was impossible to discern the operations of the enemy. This incident the Turks had the presence of mind to improve to very great advantage. They seized, unperceived, upon the counterescarp; made a lodgment there with beams, woolfacks, and gabions; and raised a battery upon it with incredible expedition. After the smoke was dispersed, the besieged beheld what had been done with much astonishment: and they were the more disquieted, as the fortification which the Turks had raised upon their counterescarp overtopped a ravelin which lay near it, in which the besieged could no longer appear with safety. They resolved, however, to defend this ravelin as long as possible, whatever it should cost them.

In the mean time *Dragut*, and another noted corsair named *Uluchiali*, arrived with 20 galleys; having, besides slaves and seamen, 2500 troops on board. This reinforcement, and the presence of *Dragut*, added fresh vigour to the operations of the siege. This gallant corsair exposed himself, on all occasions, with the utmost intrepidity; spent whole days in the trenches; and as, besides his other extraordinary talents, he was particularly skilful in the management of artillery, he caused some new batteries to be raised in more advantageous situations than had hitherto been made choice of; and kept up a continual fire both on the ravelin above mentioned, and a cavalier that covered the fort and was one of its principal defences.

This cavalier soon became the only defence which could prevent the besiegers from coming up to the very foot of the wall. Some Turkish engineers having approached the ravelin at daybreak, to observe the effects of their artillery, they perceived a gun-port so low, that one of them, when mounted on the shoulders of another, looked into it, and saw the Christian soldiers lying on the ground asleep. Of this they gave immediate information to the troops; who, advancing as quickly and silently as possible, and clapping ladders to the gun-hole, got up into the ravelin, and cut off most of the Christians to pieces.

Between this ravelin and the cavalier lay the ditch, over which the besieged had thrown a temporary bridge of planks leading up to the cavalier. The Turks, perceiving this, leaped instantly upon the bridge, and attempted to make themselves masters of the cavalier, as they already were of the ravelin. But the garrison was now alarmed; the bravest of the knights hastened from different quarters to the post of danger; and after an obstinate engagement, they compelled the Turks to retire into the ravelin. There, observing

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another way of reaching the cavalier by a path from the bottom of the ditch, they threw themselves down without dread or hesitation; and having ascended by this path to the other side, they renewed their attack with greater fury than ever. The combat lasted from sunrise till noon, when the knights at last proved victorious. About 200 knights and 100 soldiers were killed; and near 3000 of the enemy.

As the ravelin was open on the side towards the fort, the besieged pointed some cannon against it, and made great havoc among the infidels. But *Mustapha*, sensible of the value of the acquisition he had made, poured in fresh soldiers without number, and the pioneers coming forward with woolfacks, planks, and gabions, put the troops, at length in safety, and made a lodgment in the ravelin, of which the garrison were never afterwards able to dispossess them.

The grand master's concern on account of this disaster was greatly augmented, by considering, that it could not have happened so soon without some negligence on the part of the garrison. He sent them, however, an immediate reinforcement; and both the siege and the defence were carried on with the same vigour as before.

But the situation of the besieged was now become much more dangerous than formerly. The Turks applied with unremitting diligence to heighten the ravelin till it overtopped the wall of the fort; and after this the garrison could no longer appear upon the parapet with safety. Many were killed by the enemy's artillery, several breaches were made in the wall, and the hearts of the bravest knights began to fail within them.

They agreed therefore, though with much reluctance, <sup>the knights</sup> to apply to the grand master for liberty to quit the <sup>the</sup> desire <sup>to</sup> per-  
fort; and they made choice of the Chevalier *De Me-*  
*dran* for their messenger. He represented that the fort <sup>to</sup> leave the  
was in reality no longer tenable; and that, to continue <sup>are</sup> refu-  
in it, though only for a few days, would infallibly oc-  
casion the destruction of the garrison.

Most of the knights in council thought that this request of the garrison ought to be immediately granted. But *La Valette* was of a contrary opinion.— This he represented to the Chevalier *De Medran*; and sent him back with instructions to remind the knights of the vows which they took at their entrance into the order, of sacrificing their lives for its defence. He likewise bade him assure them, in his name, that he would not fail to send them such reinforcements as they should stand in need of; and was determined, as soon as it should be necessary, to come himself to their assistance, with a fixed unalterable purpose to lay down his life sooner than deliver the fort into the hands of the infidels.

This answer had the desired effect on several of the knights, and particularly on those whose principles of honour and attachment to the order were confirmed by years. But the greater part of them were much dissatisfied. They thought the grand master's treatment of them harsh and cruel; and wrote him a letter, subscribed by 53; in which they informed him, that if he did not, on the next night, send boats to carry them to the town, they were determined to fall out into the Turkish camp, where they might fall honourably by the sword, instead of suffering such an ignominious death



Malta. death as they had reason to expect if the fort was taken by storm.

To this letter La Valette replied, "That they were much mistaken if they expected to satisfy their honour by throwing away their lives; since it was no less their duty to submit to his authority than to sacrifice their lives in defence of the order: that the preservation of the whole depended on their present obedience to his commands: that no aid was to be expected from Spain if the fort were given up. And that if he should yield to their request, and bring them to the town, the town itself would then be immediately invested; and they, as well as the rest, soon afterwards reduced to a situation more desperate than that from which they were so solicitous to escape, by deserting an important post which they had undertaken to defend." Besides this letter, he sent three commissioners to examine the state of the fortifications; intending by this measure either to gain time or to prevent the garrison from sinking into despair.

These commissioners differed very widely in the accounts which they delivered at their return. Two of them thought it impossible to defend the fort much longer. But the third, named Constantine Castriot, a Greek prince, descended from the famous Albanian hero Scanderbeg, whether from ignorance or a consciousness of greater resources in his native courage than the other two possessed, maintained that the garrison was far from being reduced to the last extremity; and to give a proof how firmly he was persuaded of the truth of what he said, he offered to enter the fort himself, and to undertake the defence of it with such troops as should be willing to accompany him.

The grand master, strongly impressed with a sense of the necessity of protracting the siege, immediately accepted this offer, and bestowed the highest encomiums on Castriot's zeal and resolution. Nor did Castriot find any difficulty in persuading a sufficient number to attend him, who were no less zealous and resolute than himself. The soldiers crowded to his standard, and were emulous to have their names enrolled for that dangerous service in which he had engaged.

When La Valette saw the spirit by which these men were animated, and had no longer any doubt of being able by their means to prolong the siege of the fort; he sent a letter to the knights, acquainting them, that he was now willing to give them their discharge; and would immediately send another garrison, into whose hands he desired they should be ready to deliver up the fort, and come themselves to the town in the boats in which their successors were to be transported.

The contents and style of this letter affected the knights in the most sensible manner, and roused within them that delicate sense of honour by which the order had been so long and so eminently distinguished. — They resolved without hesitation to remain in the fort till every man should perish, rather than either deliver it to the new garrison or abandon it to the enemy. And they went in a body to the governor, and intreated him to inform the grand master of their repentance, and to join with them in praying that they might be suffered to wipe out the remembrance of their fault by their future conduct.

The grand master suffered himself at last to be overcome; and henceforth the garrison were intent on nothing but how to prolong the defence.

The grand master sent them every night fresh troops to supply the place of the killed and wounded; and kept them well furnished with provisions, ammunition, and fire-works. Of these last he had invented a particular kind, which consisted of hoops of wood, covered with wool, and steeped in boiling oil and other inflammable liquors, mixed with nitre and gunpowder. To these machines they set fire, and threw them flaming in the midst of the enemy when they were crowded together at an assault. It happened often that two or three of the Turks were hooked together and scorched to death; and the utmost confusion was produced wherever they were thrown.

The besieged stood much in need of this, and every other instrument of mischief that could be devised, for their defence. In spite of the most vigorous opposition, the Turks had cast a bridge over the ditch, and begun to sap and undermine the wall. From the 17th of June to the 14th of July, not a single day passed without some rencounter; and Mustapha had frequently attempted to scale the wall of the fort, but had been as often repulsed with the loss of some of the bravest of his troops.

Ashamed at having been detained so long before a place of such inconsiderable strength, he resolved to make one great decisive effort; and to bring to the assault as many of his forces as the situation of the place would permit him to employ. He had already made several breaches; but in order to secure the success of the assault which he now intended, he kept his batteries playing all the 15th without intermission, till the wall on that side where he designed his attack was almost level with the rock. On the 16th, the fleet was drawn up before sunrise, as near the fort as the depth of the water would allow. Four thousand musketeers and archers were stationed in the trenches; and the rest of the troops, upon a signal given, advanced to the breach. The garrison was prepared to receive them; the breach was lined with several ranks of soldiers, having the knights interspersed among them at certain distances. The Turks attempted often to break through this determined band, and to overpower them with their numbers; but their numbers served only to augment the loss which they sustained. Every shot from the fort did execution. The artillery made dreadful havock among them: and the burning hoops were employed with astonishing success. The novelty of these machines, and the shrieks of those who were caught in them, added greatly to the terror which they inspired; and made it impossible for the Turkish officers to keep their men firm and steady in pursuing the advantages, which, had they preserved their ranks, their numbers must have infallibly acquired.

At length Mustapha, after a fruitless assault of more than six hours, gave orders for founding a retreat. In this attack the garrison lost about 20 knights and 300 soldiers; but this loss was immediately supplied by a reinforcement from the town; and Mustapha was at last convinced, that, unless the communication between the fort and the town were cut off, it would be impossible to bring the siege of the former to a period, while

any

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Invention  
of burning  
hoops.



Malta.

any troops remained in the other parts of the island. By the advice of Dragut, he resolved to extend his trenches and batteries on the side next the town, till they should reach to that part of the sea, or great harbour, where those supplies were landed which the grand master daily sent to the garrison. This undertaking he knew must be attended with the utmost difficulty, because all the space between his intrenchments, and the point to which it was necessary to extend them, lay exposed to the artillery both of Fort St Elmo and St Angelo. In viewing the ground, a Sangiac, in whom he put confidence, was killed by his side; and, which was still a more irreparable loss, Dragut received a mortal wound, of which he died in a few days. This did not, however, discourage Mustapha from pursuing his design. By employing his troops and pioneers at the work day and night, without intermission, he at length carried it into execution. Then having planted batteries along the shore, and filled his trenches with musketeers, it was impossible for any boat to pass from the town to the fort without the most imminent danger of either being sunk or intercepted.

After this precaution, he resumed with fresh vigour his attempts to take the fort by storm. On the 21st he made four different assaults: all of which the garrison withstood; and, in repulsing so many thousand brave and well disciplined troops, displayed a degree of prowess and fortitude which almost exceeds belief, and is beyond the power of description. But this heroic garrison was now exceedingly reduced in number; and there was the strongest reason to apprehend, that, in one assault more, they must inevitably be overpowered, unless a reinforcement were sent them from the town. Of their desperate situation they gave intelligence to the grand master by one who swam across the harbour in the night. The boats were instantly filled with knights and other soldiers, who generously resolved to devote themselves to certain destruction for the general safety, and the preservation of the fort. They set off from the town with as much alacrity as if they had entertained the most sanguine hopes of victory; but they found the Turks everywhere so much upon their guard, and the lines so strongly defended, that, after several fruitless attempts to land, they were at last obliged to return, depressed with sorrow for the fate of their brave companions.

The garrison now gave themselves up for lost; but instead of either capitulating or attempting to escape, they prepared for death, and passed the night in prayer and in receiving the sacrament; after which they embraced one another tenderly, and then repaired to their respective posts; while such of the wounded as had been disabled from walking, were, at their own earnest desire, carried to the side of the breach, where they waited, without dismay, for the approach of the Turkish army.

Early in the morning of the 23d of July, the Turks advanced to the assault with loud shouts, as to certain victory, which they believed so small a handful of men as now remained in the fort would not dare to dispute with them. In this expectation they were disappointed. The garrison being resolved on death, and despising danger, were more than men; and exerted a degree of prowess and valour that filled their enemies with amazement. The combat lasted upwards of four

hours, till not only every knight but every soldier had fallen, except two or three who had saved themselves by swimming. The Turkish colours were then planted on the ramparts; and the fleet entered the harbour, which the fort commanded, in a kind of triumph. When Mustapha took a view of the fort, and examined its size and fortifications, he could not refrain from saying, "What will not the father cost us (meaning the town), when the son, who is so small, has cost so many thousands of our bravest troops?" But this reflection, far from exciting his admiration of that heroic fortitude which he had found so difficult to overcome, served only to inspire him with a brutal fury. He ordered all such of the garrison as were found lying on the breach alive to be ripped open, and their hearts torn out; and, as an insult on the knights and their religion, he caused their dead bodies to be searched for, and large gashes to be made in them, in the form of a cross; after which he tied them on planks, and threw them into the sea, to be carried by the wind and tide to the town or Fort St Angelo.

The grand master was at first melted into tears at this shocking spectacle; but his grief was soon converted into indignation and revenge: and these passions betrayed him into an action unworthy of the exalted character which he bore. In order to teach the basha, as he pretended, to make war with less barbarity, he caused all the Turks whom he had taken prisoners to be massacred; and then putting their heads into his largest cannon, he shot them into the Turkish camp.

In the siege which has been related, the order lost about 1500 men, including 130 of the bravest knights.

Mustapha vainly imagined, that, being intimidated by the fate of their companions, they would be now inclined to listen to terms of capitulation: and in this hope, he sent an officer with a white flag to one of the gates, attended by a Christian slave designed to serve for his interpreter. The Turk was not allowed to enter within the town; but the Christian was admitted, and was led through several ranks of soldiers under arms, by an officer, who, after showing him all the fortifications of the place, desired him to take particular notice of the depth and breadth of the ditch, and said to him, "See there, the only spot we can afford your general; and there we hope soon to bury him and all his janizaries."

This insulting speech being reported by the slave, excited in the fiery mind of the basha the highest degree of wrath and indignation, and made him resolve to exert himself to the utmost in the prosecution of the siege. His troops, though greatly diminished, were still sufficient to invest at once both the town and the fort of St Michael. He kept a constant fire on both; but he intended first to apply to the reduction of the latter, which he proposed to attack both by land and water, at the extremity of the peninsula on which it stands. In order to accomplish this design, it was necessary he should have some shipping introduced into the harbour for transporting his forces. But the mouth of the harbour having been rendered inaccessible by a great iron chain and the cannon of St Angelo, his design must have been relinquished, if Piali had not suggested an expedient against which the grand master had not provided. This was, to

Malta.  
13  
The fort taken, and the garrison cut off.

14  
Cruelty of Mustapha.

15  
And of the grand master.



Malta. make the Christian slaves and the crews of the ships draw a number of boats, by the strength of their arms, over the neck of land on which stood Fort St Elmo. Of this proposal, which Mustapha immediately adopted, information was carried to the grand master by a Turkish officer; who, being by birth a Greek, was touched suddenly with remorse, and deserted to the Christians. In consequence of this intelligence, La Valette set a great number of hands to work in framing a stacado along that part of the promontory where the Turks intended their attack; and at another part, where the depth of the water or the hardness of the bottom would not admit the stacado, he caused strong intrenchments to be made upon the beach. Mustapha, in the mean time, fired incessantly upon the fort, while the slaves and crews were employed in transporting the boats over land into the harbour. At length the basha, judging that the number of boats which he had transported would be sufficient, and that the breaches which his artillery had made were practicable, resolved, without further delay, to make an attack both by sea and land. He was the more confident of success, as, since the taking of St Elmo, he had received a considerable reinforcement, by the arrival of Hascem, son of Barbarossa, with 2500 select soldiers, commonly called *the Braves of Algiers*. Hascem, who possessed a considerable share of his father's fire, and was ambitious to distinguish himself in the sultan's service, begged of Mustapha to intrust him with the assault of Fort St Michael; and vaunted, with his natural arrogance, that he would soon make himself master of it sword-in-hand. The basha, whether from an opinion of his valour, or an intention to make him learn at his own expence the folly of his presumption, readily complied with his request; and, having added 6000 men to his Algerines, he promised to support him with the rest of his army.

Hascem divided his forces with Candellissa, an old corsair, his lieutenant; to whom he committed the attack by sea, whilst he reserved that on the land-side to himself.

Candellissa having put his troops on board the boats, set out with drums beating, and hautboys and other musical instruments playing, preceded by a boat filled with Mahometan priests, some of whom were employed in offering prayers to heaven for his success, or in singing hymns; while others had books in their hands, out of which they read imprecations against the Christians. Candellissa attempted first to break down the stacado which had been formed to obstruct his landing; but finding it much stronger than he expected, and that, while he was employed in demolishing it, his troops must suffer greatly from the enemy's fire, he thought it would be easier to make a descent on that part of the shore which the grand master had strengthened with intrenchments. At this important post, the Christian troops were commanded by an ancient knight of the name of *Guimeran*. This experienced officer reserved his fire till the Turks had advanced within a little distance of the shore, when, by a single discharge, he killed about 400 men. This did not prevent the rest from approaching. Candellissa pushed forwards while the Christians were loading their cannon, and landed at the head of his Algerines. But

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Guimeran having reserved some cannon charged with grape shot, did dreadful execution among them after they had landed, and many of them began to fly to their boats: which Candellissa observing, he commanded the boats to be put off to a little distance from the shore. His troops, perceiving then that they must either die or conquer, took courage from despair, and advanced boldly to the intrenchment, with ladders for scaling it in one hand and their sabres in the other. The combatants on both sides displayed the most intrepid valour. Great numbers fell, and the ditch was choaked with blood, and with the bodies of the dead and wounded. The Turks at last, after an engagement of five hours, reached the top of the intrenchment, and there planted their ensigns. The knights, stung with shame on account of their retreat, returned with redoubled ardour. But they would probably have been overpowered by the superior number of the enemy, had not the grand master sent them a seasonable reinforcement, under the admiral de Giou and the Chevalier de Quiney; who fell upon the Algerines and Turks with a degree of fury that struck terror into Candellissa himself, who was noted for his intrepidity. Having ordered the boats to be brought nearer the shore, he was among the first who fled. His braves fought desperately for some time after he had left them; but they were at length thrown down from the intrenchments, and compelled to fly to their boats with the utmost precipitation. The Christians pursued them, and the batteries continued firing on them without intermission. Many of the boats were sunk; the water was covered with dead bodies, mangled limbs, shields and helmets. Of the 4000 who had been sent on this enterprise, scarcely 500 remained, and many of these were dangerously wounded.

Hascem was not more fortunate in his assault by land than Candellissa was by sea. After having been repulsed at one breach with great slaughter, he rallied his troops, and led them on to another, where he fought long and desperately, till, most of the braves having fallen by his side, he was obliged, with much reluctance and sorrow, to sound a retreat.

Mustapha, not unmindful of his promise to support him, no sooner perceived him beginning to retire, than he ordered the janizaries, whom he kept under arms, to advance. The garrison had maintained an engagement with Hascem for five hours, in the middle of the day, and in the hottest season of the year; yet, as if they had not been subject to the wants and weaknesses of humanity, they advanced beyond the breach to meet the janizaries, and fought apparently with as much vigour and fortitude as before. By the power of superior numbers, they were compelled to fall back within the breach. But there they made the most desperate resistance; and, being reinforced by De Giou and De Quiney, with the troops which had triumphed over Candellissa, they at last repulsed the janizaries with dreadful slaughter; after having lost more than 40 knights, and 200 of the bravest of the common men.

Mustapha, enraged by this invincible obstinacy which the Christians displayed in their defence, and dreading that the Spanish succours, which had been already delayed much longer than he expected, might soon arrive, resolved now to employ his whole force at once;

3 K

and

16  
The Turks  
repulsed  
with great  
slaughter.

17  
Incredible  
valour of  
the Mal-  
tese.



Malta.

18  
A great number of Turks destroyed by a contrivance of their own.

and while he himself prosecuted the siege of Fort St Michael with one half of his troops, to employ the other, under Piali, against the town. More batteries were raised; the trenches were advanced still nearer than before; bridges of sail-yards and masts were thrown over the ditches; mines, notwithstanding the hard and rocky soil, were sprung; assaults were repeated without number; and the two bashas, emulous of one another, and each of them agitated with continual anxiety lest victory should declare first for his competitor, exhibited the most shining proofs of personal courage, and exhausted all the art of war then known in the world. Yet, through the determined bravery of the knights, conducted by the grand master with consummate prudence and indefatigable vigilance, the Turks were baffled in every attempt, and repulsed with slaughter. Mustapha flattered himself once with the most sanguine hopes of success on his part, from a machine invented by his principal engineer, in the form of a huge cask bound strongly with iron hoops, and filled with gunpowder, nails, chains, bullets, and such other instruments of death. After setting fire to a train which was fastened to this machine, it was thrown, by the force of an engine, upon a ravelin that was the principal defence of the fort. But the garrison, undismayed, found means, before it caught fire, to cast it out again into the midst of the assailants. In a moment afterwards it burst with dreadful fury, and filled the Turks with consternation. The knights then fallied out upon them sword in hand; and, taking advantage of their confusion, killed many of them, and put the rest to flight.

Piali had, on some occasions, still more reason than Mustapha to entertain the hopes of victory, although the town was much stronger than the fort, and La Valette commanded there in person. By his batteries he had demolished all the outworks of the place, and had made an immense breach in the wall. While his troops were engaged in a furious assault, that engrossed the whole attention of the besieged from morning till night, he employed a great number of pioneers in raising a cavalier or platform of earth and stones, close by the breach; and so high as to overlook the parapet. Night, in the mean time, came on, and prevented him from carrying any further this great advantage; but he doubted not that next day he should be able to make himself master of the place.

19  
The grand master prevents the knights from abandoning the town.

As soon as he had drawn off his forces, a council of the order was convened, and most of the knights were of opinion that the town was no longer tenable; that the fortifications which still remained should be blown up; and that the garrison and inhabitants should retire into the castle of St Angelo. But the grand master received this proposal with horror and indignation. "This would be in effect (said he), to deliver the whole island into the hands of the infidels. Fort St Michael, which has been so gallantly defended, and which is preserved by its communication with the town, would thus be soon reduced to the necessity of surrendering. There is no room in the castle of St Angelo for the inhabitants and troops; nor, if there were room, is there water in that fort for so great a number." It was then proposed, that at least the relics of the saints and the ornaments of the churches should be carried into the castle; and the knights earnestly en-

Malta.

treated the grand master to retire into it himself, assuring him that they would conduct the defence with the utmost vigour and vigilance. "No, my brethren (he replied), what you propose as to the sacred things would serve only to intimidate the soldiers. We must conceal our apprehensions. It is here we must either die or conquer. And is it possible that I, at the age of 71, can end my life so honourably as in fighting, together with my friends and brethren, against the implacable enemies of our holy faith?" He then told them what he thought proper to be done, and proceeded instantly to put it into execution. Having called all the soldiers from Fort St Angelo, except a few who were necessary for managing the artillery, he employed them and the inhabitants all night in throwing up intrenchments within the breach; after which he sent out some of the bravest knights, with a select body of troops, to make an attempt on the cavalier. These men stole softly along the foot of the wall till they arrived at the place appointed; when they set up a loud shout, and attacked the guards whom Piali had left there with so much fury, that the Turks, believing the whole garrison had fallen upon them, abandoned their post, and fled precipitately to their camp.

The cavalier was immediately fortified, a battery of cannon planted on it, and a parapet raised on the side towards the enemy. And thus the breach was rendered impracticable; the town put in greater security than before; and a work, which had been devised for its destruction, converted into a bulwark for its defence.

The grand master had now greater confidence than ever of being able to hold out till the Spaniards should come to his relief. In consequence of the assurances given by Philip and the Sicilian viceroy, he had, long before this time, entertained the hopes of their arrival; and had often earnestly solicited the viceroy to hasten his departure from Messina. The conduct of this nobleman was long exceedingly mysterious. The patience of the knights was worn out by his delays; and they, and many others, suspected that the real motive of his conduct was the dread of encountering with an admiral of so considerable reputation as Piali. But it afterwards appeared that the viceroy had acted agreeably to his instructions from the court of Spain. For although Philip was, for the reasons above mentioned, sincerely interested in the preservation of the knights, and had amused them with the most flattering promises of assistance; yet he seems from the first to have resolved not to expose himself to danger on that account, and to avoid, if possible, a general engagement.

Philip was affected by their danger only so far as it threatened the tranquillity of his own dominions. He had resolved to interpose in their behalf, rather than to suffer them to be overpowered; but he appears to have been very little touched with their calamities, and to have intended to leave them to themselves, as long as there was any prospect of their being able to make resistance; by doing which he considered, that he would not only preserve his own strength entire, but might afterwards engage with the Turks when they were exhausted by the operations of the siege.

Philip adhered inflexibly to this plan, notwithstanding the grand master's repeated importunities, much longer than was consistent with his own selfish views. For, without



Malta.

without a degree of fortitude and prowess on the part of the garrison, and a degree of wisdom, vigilance, and magnanimity on that of the grand master, infinitely higher than there could be reason to expect, it must have been impossible for such a handful of men to have withstood, for so long a time, so great a force, and such mighty efforts, as were employed to reduce them. Even the death of the grand master alone, whose person was exposed to perpetual danger, would have proved fatal to the knights, long before Philip sent orders to his viceroy to give them any effectual support; and in this case, as his own dominions or his fleet would have been immediately attacked, he would probably have had little reason to be satisfied with the timid ungenerous counsels which he pursued.

Whatever judgement may be formed on this head, the viceroy did not think himself at liberty to yield to the repeated applications of the grand master, till the operations of the siege began to relax, and the Turkish forces were reduced from 45,000 to 15,000 or 16,000; of whom many were worn out with the fatigues which they had undergone, and others rendered unfit for action by a bloody flux, which for several weeks had raged amongst them.

In this situation of affairs, when it was probable that the knights would, without assistance, have compelled the Turks to raise the siege, the viceroy let the grand master know, that he had now received such instructions from the king, as put it in his power to show his attachment to the order: that he was not indeed permitted to attack the Turkish fleet; but that he would immediately bring him a strong body of troops, whose commanders (as he himself must return to Sicily) were to be entirely subject to the grand master's authority till the enemy should be expelled.

The viceroy, although still suspected of interposing unnecessary delays, at length fulfilled his promise; and on the 7th of September landed 6000 men, under Don Alvaro de Sandé and Ascanio della Corna, in that part of the island which lay at the greatest distance from the Turks; after which, he immediately carried back the fleet to Sicily.

In the mean time, intelligence being brought to Mustapha that the Spaniards were landed, and marching towards him, he was thrown into the most dreadful consternation. Sensible that his soldiers were much disheartened by their ill success, he imagined that he was about to be attacked by a superior army, consisting of the bravest and best disciplined troops in Spain. Without waiting for information of their number, he forthwith raised the siege, drew his garrison out of St Elmo, and, leaving all his heavy cannon behind him, embarked his troops with as much precipitation as if the Spaniards with superior forces had been in sight. He had scarcely got on board when a deserter arrived from the Spanish camp, and informed him, that with 15,000 or 16,000 men, he had fled before an army that did not exceed 6000, having no general at their head, and commanded by officers who were independent of one another. The basha was overwhelmed with shame and vexation by this intelligence, and would have immediately disembarked; but this, he knew, he durst not attempt without consulting Piali, Hafsem, and his other principal officers.

While he was deliberating upon it, the grand ma-

ster improved to the best advantage the leisure that was afforded him. He employed all the inhabitants, men, women, and children, as well as the soldiers, in filling up the enemy's trenches, and demolishing their works; and put a garrison without delay into Fort St Elmo; in which the Turks now beheld from their ships the standard of St John erected, where that of Mahomet had lately stood.

This demonstrated to Mustapha how much new labour awaited him in case he should return to the siege; but being enraged against himself on account of the precipitancy of his retreat, and disquieted at the thoughts of the reception which he had reason to expect from Solyman, he wished to atone for his imprudence, and to wipe off the reproach in which it had involved him, by victory or death. Piali, who, from his jealousy of the basha's credit with the sultan, was not sorry for the failure of his enterprise, represented in a council of war convened on this occasion, That as the troops were much dispirited and worn out, it would be exposing them to certain destruction, either to lead them against the enemy, or to resume the operations of the siege. But the majority of the council were of a different opinion; and it was resolved to land the forces again without delay.

The Turkish soldiers complained bitterly of this unexpected resolution, and obeyed the orders to disembark with the greatest reluctance. Their officers were obliged to employ threats with some, and force with others. At length the number intended was put on shore, and Mustapha set out at their head in search of the enemy.

The grand master had not neglected to give early notice of their march to the Spanish commanders, who had intrenched their little army on a steep hill; which the Turks would have found almost inaccessible, and it was the opinion of some of the principal officers, that they should avail themselves of the advantage of their situation, and stand on their defence. But this proposal was rejected with disdain by the bold adventurous De Sandé, and the greatest part of the Spanish officers; and the troops were led out of their encampment, to meet the enemy in the open field. This conduct, more fortunate perhaps than prudent, contributed to increase the dejection of the Turkish soldiers, and to facilitate their defeat. Having been dragged against their inclination to the field of battle, and being attacked by the Spaniards with great fury, both in front and flank, they scarcely fought, but, being struck with a sudden panic, fled with the utmost precipitation.

Mustapha, confounded and enraged by this pusillanimous behaviour of his troops, was hurried along by the violent tide of the fugitives. He fell twice from his horse, and would have been taken prisoner if his officers had not rescued him. The Spaniards pursued briskly till they came to the sea shore. There Piali had his boats ready to receive the Turks, and a number of shallops filled with musketeers drawn up to favour their escape. Without this precaution, they must all have perished; and, even notwithstanding the protection which it afforded them, the number of their killed amounted to 2000 men, while the victors lost only 13 or 14 at most.

Such, after four months continuance, was the conclusion

Malta.

22  
They re-  
turn, but  
are defeat-  
ed.

20  
The knights  
receive a  
reinforce-  
ment.

21  
The Turks  
raise the  
siege in a  
panic.



Malta. elusion of the siege of Malta, which will be for ever memorable on account of that extraordinary display of the most generous and heroic valour, by which the knights, so few in number, were enabled to baffle the most vigorous efforts which could be made to subdue them by the most powerful monarch in the world. The news of their deliverance gave universal joy to the Christian powers; and the name of the grand master excited everywhere the highest admiration and applause. Congratulations were sent him from every quarter; and in many states public rejoicings were celebrated on account of his success.

With this siege is concluded every thing of importance in the history of Malta. The power of the Turks began about this time to be so much circumscribed, that they ceased to be formidable to the Christian nations, and the knights of Malta had no longer an opportunity of exerting their valour as formerly. The best description of Malta we have met with is that given by Mr Brydone.

23  
Description  
of the island,  
&c.

“The approach of the island (says he), is very fine, although the shore is rather low and rocky. It is everywhere made inaccessible to an enemy by an infinite number of fortifications. The rock, in many places, has been sloped into the form of a glacis, with strong parapets and intrenchments running behind it.—On getting ashore we found ourselves in a new world indeed.—The streets (of Valetta) crowded with well-dressed people, who have all the appearance of health and affluence; and we were conducted by the English consul to an inn, which had more the appearance of a palace.

“After dinner we went to visit the principal villas of the island; particularly those of the grand master and the general of the galleys, which lie contiguous to one another. These are nothing great or magnificent; but they are admirably contrived for a hot climate, where, of all things, shade is the most desirable. The orange groves are indeed very fine, and the fruit they bear superior to any thing of the kind in Spain or Portugal.

“The aspect of the country is far from being pleasing: the whole island is a great rock of very white freestone; and the soil that covers this rock is, in most places, not more than five or six inches deep; yet, what is singular, we found their crop in general was exceedingly abundant. They account for it from the copious dews that fall during the spring and summer months: and pretend likewise that there is a moisture in the rock below the soil, that is of great advantage to the corn and cotton, keeping its roots perpetually moist and cool; without which singular quality, they say, they could have no crop at all, the heat of the sun being so exceedingly violent.—The whole island produces corn only sufficient to supply its inhabitants for five months or little more; but the crop they most depend upon is the cotton. They begin to sow it about the middle of May, and continue till the middle of June; and the time of reaping is in the month of October and beginning of November.

“They pretend that the cotton produced from this plant, which is sown and reaped in four months, is of a much superior quality to that of the cotton-tree. I compared them; but I cannot say I found it so: this is indeed the finest; but that of the cotton-tree is

by much the strongest texture. The plant rises to the height of a foot and a half; and is covered with a number of nuts or pods full of cotton: These, when ripe, they are at great pains to cut off every morning before sunrise; for the heat of the sun immediately turns the cotton yellow: which indeed we saw from those pods they save for seed.

“They manufacture their cotton into a great variety of stuffs. Their stockings are exceedingly fine. Some of them, they assured us, had been sold for ten sequins a pair. Their coverlets and blankets are esteemed all over Europe. Of these the principal manufactures are established in the little island of Gozzo, where the people are said to be more industrious than those of Malta, as they are more excluded from the world, and have fewer inducements to idleness. Here the sugar cane is still cultivated with success, though not in any considerable quantity.

“The Maltese oranges certainly deserve the character they have of being the finest in the world. The season continues for upwards of seven months, from November till the middle of June; during which time those beautiful trees are always covered with abundance of delicious fruit. Many of them are of the red kind, much superior, in my opinion, to the others, which are rather too luscious. They are produced, I am told, from the common orange bud, ingrafted on the pomegranate stock. The juice of this fruit is as red as blood, and of a fine flavour. The greatest part of their crop is sent in presents to the different courts of Europe, and to the relations of the chevaliers.

“The industry of the Maltese in cultivating their little island is inconceivable. There is not an inch of ground lost in any part of it; and where there was not soil enough, they have brought over ships and boats loaded with it from Sicily, where there is plenty, and to spare. The whole island is full of enclosures of freestone, which give the country a very uncouth and barren aspect; and in summer reflect such a light and heat, that it is exceedingly disagreeable and offensive to the eyes. The inclosures are very small and irregular, according to the inclination of the ground. This, they say, they are obliged to observe, notwithstanding the deformity it occasions; otherwise the floods, to which they are subject, would soon carry off their soil.

“The island is covered over with country houses and villages, besides seven cities, for so they term them; but there are only two, the Valetta, and Citta Vecchia, that by any means deserve that appellation. Every little village has a noble church, elegantly finished, and adorned with statues of marble, rich tapestry, and a large quantity of silver plate.

“The city of Valetta has certainly the happiest situation that can be imagined. It stands upon a peninsula between two of the finest ports in the world, which are defended by almost impregnable fortifications. That on the south side of the city is the largest. It runs about two miles into the heart of the island; and is so very deep, and surrounded by such high grounds and fortifications, that they assured us the largest ships of war might ride here in the most stormy weather, almost without a cable.

“This beautiful bason is divided into five distinct harbours.

Malta.



Malta. harbours, all equally safe, and each capable of containing an immense number of shipping. The mouth of the harbour is scarcely a quarter of a mile broad, and is commanded on each side by batteries that would tear the strongest ship to pieces before she could enter. Besides this, it is fronted by a quadruple battery, one above the other, the largest of which is a *fleur d'eau*, or on a level with the water. These are mounted with about 80 of their heaviest artillery: so that this harbour, I think, may really be considered as impregnable; and indeed the Turks have ever found it so, and I believe ever will.

“ The harbour on the north side of the city, although they only use it for fishing, and as a place of quarantine, would, in any other part of the world, be considered as inestimable. It is likewise defended by very strong works; and in the centre of the basin is an island on which they have built a castle and a lazaret.

“ The fortifications of Malta are indeed a most stupendous work. All the boasted catacombs of Rome and Naples are a trifle to the immense excavations that have been made in this little island. The ditches, of a vast size, are all cut out of the solid rock. These extend for a great many miles, and raise our astonishment to think that so small a state has ever been able to make them.

“ One side of the island is so completely fortified by nature, that there was nothing left for art. The rock is of a great height, and absolutely perpendicular from the sea for several miles. It is very singular, that on this side there are still the vestiges of several ancient roads, with the tracks of carriages worn deep in the rocks. These roads are now terminated by the precipice, with the sea beneath; and show, to a demonstration, that this island has formerly been of a much larger size than it is at present; but the convulsion that occasioned its diminution is probably much beyond the reach of any history or tradition. It has been often observed, notwithstanding the very great distance of Mount *Ætna*, that this island has generally been more or less affected by its eruptions; and they think it probable, that on some of these occasions a great part of it may have been shaken into the sea.

“ One half of Mount *Ætna* is clearly discovered from Malta. They reckon the distance near 200 Italian miles. And the people of Malta affirm, that, in great eruptions of the mountain, their whole island is illuminated, and from the reflection in the water there appears a great tract of fire all the way from Malta to Sicily. The thundering of the mountain is likewise distinctly heard.

“ We made an expedition through the island in coaches drawn by one mule each; the only kind of vehicle the island affords. The catacombs, not far from the ancient city of Melita, are a great work; they are said to extend for 15 miles under ground. Many people, they assure us, have been lost in them by advancing too far; the prodigious number of branches making it next to impossible to find the way out again. The great source of water that supplies the city of Valletta takes its rise near to this place; and there is an aqueduct, composed of some thousand arches, that conveys it from thence to the city. The whole of this

immense work was finished at the private expence of Malta. one of the grand masters.

“ Not far from the old city there is a small church dedicated to St Paul; and just by the church a miraculous statue of the saint, with a viper on his hand; supposed to be placed on the very spot where the house stood in which he was received after his shipwreck on the island, and where he shook the viper off his hand into the fire without being hurt by it: at which time the Maltese assure us, the saint cursed all the venomous animals of the island, and banished them for ever. Whether this be the cause of it or not, the fact is certain that there are no venomous animals in Malta. They assured us, that vipers had been brought from Sicily, and died almost immediately on their arrival.

“ Adjoining to the church is the celebrated grotto in which the saint was imprisoned. It is looked upon with the utmost reverence and veneration; and if the stories they tell of it be true, it is well entitled to it all. It is exceedingly damp, and produces (I believe by a kind of petrification from the water) a whitish kind of stone, which, they assure us, when reduced to powder, is a sovereign remedy in many diseases, and saves the lives of thousands every year. There is not a house in the island that is not provided with it: and they tell us there are many boxes of it sent annually, not only to Sicily and Italy, but likewise to the Levant, and to the East Indies; and (what is considered as a daily standing miracle) notwithstanding this perpetual consumption, it has never been exhausted, nor even sensibly diminished; the saint always taking care to supply them with a fresh quantity the day following. I tasted some of it, and believe it is a very harmless thing. It tastes like exceeding bad magnesia, and, I believe, has pretty much the same effects. They give about a teaspoonful of it to children in the smallpox and in fevers. It produces a copious sweat about an hour after; and, they say, never fails to be of service. It is likewise esteemed a certain remedy against the bite of all venomous animals. There is a very fine statue of St Paul, in the middle of this grotto, to which they ascribe great powers.

“ The grand master of the knights of Malta is more absolute, and possesses more power, than most sovereign princes. His titles are, *serene highness* and *eminence*; and his household attendance and court are all very princely. As he has the disposal of all lucrative offices, he makes of his councils what he pleases; besides, in all the councils that compose the jurisdiction of this little nation, he himself presides, and has two votes. He has the disposal of 21 commanderies, and one priory, every five years; and as there is always a number of expectants, he is very much courted. He is chosen by a committee of 21; which committee is nominated by the seven nations, three out of each nation. The election must be over within three days of the death of the former grand master; and, during these three days, there is scarce a soul that sleeps at Malta: all is cabal and intrigue; and most of the knights are masked, to prevent their particular attachments and connexions from being known: the moment the election is over, every thing returns to its former channel.

“ The land force of Malta is equal to the number  
of.



Malta.

of men in the island fit to bear arms. They have about 500 regulars belonging to the ships of war; and 150 compose the guard of the prince. The two islands of Malta and Gozzo contain about 150,000 inhabitants. The men are exceeding robust and hardy. I have seen them row for 10 or 12 hours without intermission, and without even appearing to be fatigued. Their sea force consists of 4 galleys, 3 galliots, 4 ships of 60 guns, and a frigate of 36, besides a number of the quick-sailing little vessels called *scampavias* (literally *runaways*). Their ships, galleys, and fortifications, are not only well supplied with excellent artillery, but they have likewise invented a kind of ordnance of their own, unknown to all the world besides. For we found, to our no small amazement, that the rocks were not only cut into fortifications, but likewise into artillery, to defend these fortifications, being hollowed out, in many places, into the form of immense mortars. The charge is said to be about a barrel of gunpowder, over which they place a large piece of wood, made exactly to fit the mouth of the chamber. On this they heap a great quantity of cannon-balls, shells, or other deadly materials; and when an enemy's ship approaches the harbour, they fire the whole into the air: and they pretend it produces a very great effect; making a shower for 200 or 300 yards round, that would sink any vessel.

"Notwithstanding the supposed bigotry of the Maltese, the spirit of toleration is so strong, that a mosque has been lately built for their sworn enemies the Turks. Here the poor slaves are allowed to enjoy their religion in peace. It happened lately that some idle boys disturbed them during their service; they were immediately sent to prison, and severely punished. The police indeed is much better regulated than in the neighbouring countries, and assassinations and robberies are very uncommon; the last of which crimes the grand master punishes with the utmost severity. He is said to be much more relaxed with regard to the first.

"Perhaps Malta is the only country in the world where duelling is permitted by law. As their whole establishment is originally founded on the wild and romantic principles of chivalry, they have ever found it too inconsistent with those principles to abolish duelling; but they have laid it under such restrictions as greatly to lessen its danger. These are curious enough. The duellists are obliged to decide their quarrel in one particular street of the city; and if they presume to fight anywhere else, they are liable to the rigour of the law. But, what is not less singular, but much more in their favour, they are obliged, under the most severe penalties, to put up their swords when ordered to do so by a *woman*, a *priest*, or a *knight*. Under these limitations, in the midst of a great city, one would imagine it almost impossible that a duel could ever end in blood; however, this is not the case: a cross is always painted opposite to the spot where a knight has been killed, in commemoration of his fall. We counted about 20 of these crosses.

"About three months ago (Mr Brydone's letter is dated June 7. 1770), two knights had a dispute at a billiard table. One of them, after giving a great deal of abusive language, added a blow; but, to the astonishment of all Malta (in whose annals there is not a

similar instance), after so great a provocation he absolutely refused to fight his antagonist. The challenge was repeated, and he had time to reflect on the consequences; but still he refused to enter the lists. He was condemned to make the *amende honorable* in the great church of St John for 45 days successively; then to be confined in a dungeon, without light, for five years; after which, he is to remain a prisoner in the castle for life. The unfortunate young man who received this blow is likewise in disgrace, as he has not had an opportunity of wiping it out in the blood of his adversary.

"The horse-races of Malta are of a very uncommon kind. They are performed without either saddle, bridle, whip, or spur; and yet the horses are said to run full speed, and to afford a great deal of diversion. They are accustomed to the ground for some weeks before; and although it is entirely over rock and pavement, there are very seldom any accidents. They have races of asses and mules performed in the same manner four times every year. The rider is only furnished with a machine like a shoemaker's awl, to prick on his courser if he is lazy.

"As Malta is an epitome of all Europe, and an assemblage of the younger brothers, who are commonly the best, of its first families, it is probably one of the best academies for politeness in this part of the globe; besides, where every one is entitled by law as well as custom to demand satisfaction for the least breach of it, people are under a necessity of being very exact and circumspect, both with regard to their words and actions."

Malta was taken by the French army under General Bonaparte, destined to invade Egypt, in the year 1799, but soon after retaken by the British, and agreed to be given up to the knights of St John of Jerusalem, by the treaty of Amiens, in 1802. The British troops did not evacuate the island even after this treaty, as the government insisted on retaining it for 10 years, which proposal was rejected by France, and formed one cause of the recommencement of hostilities in June 1803.

*Knights of MALTA*, otherwise called *Hospitalers of St John of Jerusalem*, a religious military order, whose residence is in the island of Malta, situated in the Mediterranean sea, upon the coast of Africa. The Knights of Malta, so famous for defending Christendom, had their rise as follows:

Some time before the journey of Godfrey of Bouillon into the Holy Land, some Neapolitan merchants, who traded in the Levant, obtained leave of the caliph of Egypt to build a house for those of their nation who came thither on pilgrimage, upon paying an annual tribute. Afterwards they built two churches, and received the pilgrims with great zeal and charity. This example being followed by others, they founded a church in honour of St John, and an hospital for the sick; whence they took the name of *Hospitalers*. A little after Godfrey of Bouillon had taken Jerusalem, in 1099, they began to be distinguished by black habits and a cross with eight points; and, besides the ordinary vows, they made another, which was to defend the pilgrims against the insults of the infidels. This foundation was completed in 1104, in the reign of Baldwin; and so their order became military, into which

Malta.



Malta. which many persons of quality entered, and changed the name of *hospitalers* into that of *knights*.

When Jerusalem was taken, and the Christians lost their power in the East, the knights retired to Acre or Ptolemais, which they defended valiantly in 1290. Then they followed the king of Cyprus, who gave them Limiffon in his dominions, where they staid till 1310. That same year they took Rhodes, under the grand master Foulques de Villaret, a Frenchman; and next year defended it against an army of Saracens: since which the grand masters have used these four letters, F. E. R. T. i. e. *Fortitudo ejus Rhodum tenuit*; and the order was from thence called *knights of Rhodes*.

In 1522, Solyman having taken Rhodes, the knights retired into Candia, and thence into Sicily. In 1530, Charles V. gave them the island of Malta, to cover his kingdom of Sicily from the Turks. In 1566, Solyman besieged Malta; but it was gallantly defended by the grand master John de Valette Parisot, and the Turks obliged to quit the island with great loss.

The knights consisted of eight different languages or nations, of which the English were formerly the sixth; but at present they are but seven, the English having withdrawn themselves. The first is that of Provence, whose chief is grand commendator of religion; the second, of Auvergne, whose chief is marshal of the order; the third, of France, whose chief is grand hospitaler; the fourth of Italy, and their chief, admiral; the fifth of Arragon, and their chief, grand conservator; the sixth of Germany, and their chief, grand bailiff of the order; the seventh of Castile, and their chief, grand chancellor. The chief of the English was grand commander of the cavalry.

None are admitted into this order but such as are of noble birth both by father and mother's side for four generations, excepting the natural sons of kings and princes. The knights are of two sorts: those who have a right to be candidates for the dignity of grand master, called *grand crosses*; and those who are only *knights-assistants*, who are taken from good families. They never marry; yet have continued from 1090 to the present time.

The order consists of three estates; the knights, chaplains, and servants at arms. There are also priests who officiate in the churches; friar-servants, who assist at the offices; and *doues* or *demi-crosses*; but these are not reckoned as constituent parts of the body. This division was made in 1130, by the grand master Raymond du Puy.

The government of the order is mixed, being partly monarchical, and partly aristocratical. The grand master is sovereign, coins money, pardons criminals, and gives the places of grand priors, bailiffs, knights, &c. The ordinary council is composed of the grand master and the grand crosses. Every language has several grand priories, and every priory a certain number of commanderies.

The knights are received into this order, either by undergoing the trials prescribed by the statutes, or by dispensations. The dispensations are obtained either by the pope's brief, or by a general chapter of the order, and are granted in case of some defect as to the nobility of their pedigree, especially on the mother's side. The knights are received, either as of age, under mi-

nority, or pages to the grand master. They must be 16 years old complete before they are received: they enter into the noviciate at 17, and are professed at 18. They sometimes admit infants of one year old; but the expence is about 4000 livres. The grand master has 16 pages who serve him, from 12 to 16 years of age. The knights wear on the left side of their cloak or waistcoat a cross of white waxed cloth, with eight points, which is their true badge; that of gold being only for ornament. When they go to war against the Turks, they wear a red cassock, with a great white cross before and behind, without points, which are the arms of the religion. The ordinary habit of the grand master is a sort of cassock of tabby-cloth, tied about with a girdle, at which hangs a great purse, to denote the charitable institution of the order. Over this he wears a velvet gown; and on the left side a white cross with eight points. His yearly revenue is 10,000 ducats. He acknowledges the kings of Spain and both the Sicilies, as his protectors; and is obliged by his agreement with the emperor Charles V. to suppress pirates.

The knights of Malta were deprived of their privileges and had their estates sequestered by order of Maximilian Joseph, elector of Bavaria; but after Paul emperor of Russia took them under his protection, they were all restored. A treaty to this effect was signed on the 29th of July 1799, by Baron Flaxman, grand-cross of the order of St John of Jerusalem.

MALTON, a town of the north riding of Yorkshire in England, seated on the river Derwent, over which there is a good stone bridge. It is composed of two towns, the New and the Old; and is well inhabited, accommodated with good inns, and sends two members to parliament. W. Long. 0. 40. N. Lat. 54. 8.

MALVA, the MALLOW, a genus of plants belonging to the monodelphia class; and in the natural method ranking under the 37th order, *Columniferae*. See BOTANY Index.

MALVERN; GREAT and LITTLE; (with the *Chase* and the *Hills*); two towns of Worcestershire, in which were formerly two abbeys, about three miles asunder. Since the dissolution nothing remains of the abbey of *Great Malvern* but the gateway of the abbey and church, now parochial. Part of it was a religious cell for hermits before the Conquest; and the greatest part, with the tower, built in the reign of William the Conqueror. Its outward appearance is very striking. It is 171 feet in length, 63 in breadth, and 63 in height. In it are ten stalls; and it is supposed to have been rebuilt in the year 1171. The nave only remains in part, the side aisles being in ruins. The windows have been beautifully enriched with painted glass, and in it are remains of some very ancient monuments. *Little Malvern* stands in a cavity of the hills, which are great lofty mountains, rising like stairs, one higher than another, for about seven miles, and divide this county from Herefordshire. There is a ditch here very much admired. On the hills are two medicinal springs, called *holy wells*, one good for the eyes, and the other for cancers. Henry VII. his queen, and his two sons, Prince Arthur and Prince Henry, were so delighted with this place, that they beautified the church and windows, part of which remain, though mutilated. In the lofty south windows

Malton  
||  
Malvern.



Malus,  
Mambrun.

windows of the church are the historical passages of the Old Testament; and in the north windows the pictures of the holy family, the nativity and circumcision of our Saviour, the adoration of the shepherds and the kings, his presentation in the temple, his baptism, fasting, and temptation, his miracles, his last supper with his disciples, his prayer in the garden, his passion, death, and burial, his descent into hell, his resurrection and ascension, and the coming of the Holy Ghost. The history of our Saviour's passion is painted differently in the east window of the choir, at the expence of Henry VII. whose figure is therefore often represented, as is that of his queen. In the west window is a noble piece of the day of judgement, not inferior to the paintings of Michael Angelo. *Malvern Chase* contains 7115 acres in Worcestershire (besides 241 acres called the Prior's Land), 619 in Herefordshire, and 103 in Gloucestershire. *Malvern Hills* run from north to south, the highest point 1313 feet above the surface of the Severn at Hanley, and appear to be of limestone and quartz. On the summit of these hills is a camp with a triple ditch, imagined to be Roman, and is situated on the Herefordshire side of the hills.

MALUS. See PYRUS, BOTANY *Index*.

MAMALUKES, the name of a dynasty that reigned in Egypt. See EGYPT.

MAMBRUN, PETER, an ingenious and learned French Jesuit, born in the diocese of Clermont, in

the year 1581. He was one of the most perfect imitators of Virgil in Latin poetry, and his poems are of the same species: Thus he wrote *Eclogues*, *Georgics*, or four books on the culture of the soul and the understanding; together with a heroic poem, entitled *Constantine, or Idolatry overthrown*. He showed also great critical abilities in a Latin *Peripatetical Dissertation on Epic Poetry*. He died in 1661.

MAMERTINI, a mercenary band of soldiers which passed from Campania into Sicily at the request of Agathocles. When they were in the service of Agathocles, they claimed the privilege of voting at the election of magistrates at Syracuse, and had recourse to arms to support their unlawful demands. The sedition was appeased by the authority of some leading men, and the Campanians were ordered to leave Sicily. In their way to the coast they were received with great kindness by the people of Messana, and soon returned perfidy for hospitality. They conspired against the inhabitants, murdered all the males in the city, married their wives and daughters, and rendered themselves masters of the place. After this violence they assumed the name of Mamertini, and called their city Mamertum, or Mamertium, from a provincial word which in their language signified *martial* or *warlike*. The Mamertines were afterwards defeated by Hiero, and totally disabled to repair their ruined affairs.

MAMMÆ, in *Anatomy*. See there, N° 227.

## M A M M A L I A.

<sup>1</sup>  
Definition.

THE first class of the animal kingdom in the system of Linnæus, containing those animals which have *breasts* or *paps*, (*mammæ*) at which they suckle their young. In this class are included, not only what are called the *viviparous quadrupeds*, but the BAT tribe, and several marine animals, as SEALS and WHALES. In the present article, we are to give an account of all but the whales, or CETACEA, which have been already fully treated of under the article CETOLOGY.

### INTRODUCTION.

<sup>2</sup>  
Utility of this part of natural history.

The relations that subsist between man and many of the animals arranged in this class, either from their utility as domestic servants, or from the warfare that they carry on against him, his property or his dependants, render the study of this part of natural history peculiarly important; while the extraordinary actions and faculties of some of these animals must make the history of them highly interesting to every one who examines nature with a curious or discerning eye.

<sup>3</sup>  
Our knowledge of it imperfect.

Quadrupeds have, accordingly, engaged the particular attention of naturalists in every country and in every age, and as our acquaintance with them is less difficult than with most other classes of animated nature, it is not surprising that their form, habits, and manners are most familiar to us. Still, indeed, much remains in doubt respecting some of the foreign and rarer quadrupeds, and of some we know little more than the name. Even with regard to those which have been longest

known and described, as the *lion*, the *elephant*, the *porcupine*, &c. the observations of modern naturalists and travellers have corrected several erroneous notions that had been generally received as certain. Long as this part of natural history has occupied the attention of mankind, there yet probably remain many gleanings to repay the industry of future inquirers. It is probable that the unexplored regions of Africa, America, and New Holland, may contain many quadrupeds either entirely unknown to us at present, or known only by the fossil remains that have been discovered in the bowels of the earth. There can, we think, be little doubt that the unicorn exists in Africa not far north of the Cape of Good Hope, and perhaps, at some distant period it may be as well known as the elephant or the hippopotamus is at present\*.

To attempt any thing like a critical examination of even the most celebrated writers on the natural history of the mammalia would far exceed the limits which we are obliged to prescribe to this article. We shall however, briefly notice some of the more important and more interesting works, to which our readers may refer for information which the nature of this work precludes us from affording them.

Among the ancients, the most celebrated writers on natural history in general, and on quadrupeds in particular, are Aristotle and Pliny, and of these the former has been much more circumstantial, and probably much less credulous than the latter. Aristotle wrote more from observation, and the opportunities of obtaining a knowledge

\* See Barrow's Travels in Southern Africa.

<sup>4</sup>  
Writers on mammalia.



Classification. knowledge of animals that were afforded him by the liberality of his pupil give him a greater claim to our attention and assent, than is perhaps due to Pliny, who drew his accounts almost entirely from preceding writers. Pliny, however, is a more graceful, more animated, and consequently a more pleasing writer, and everywhere displays great marks of taste and erudition.

5 Aristotle and Pliny.  
6 Gesner, Aldrovandus, and Johnston.  
Between the subversion of literature and the beginning of the 17th century, there is scarcely a writer on quadrupeds that deserves particular mention. Even during the 17th century, the labourers in this department were few; and the names of Gesner, Aldrovandus, and Johnston, alone have been deemed worthy of commemoration in Linnæus's introduction to the mammalia, and of these it is by no means certain that the writings on quadrupeds attributed to Aldrovandus are genuine.

7 Pennant.  
8 Buffon.  
The 18th century produced a great many valuable works, both systematic and descriptive, on this part of natural history. As systematic writers, Ray and Pennant, and on the continent, Klein, Stort, Brisson, Linné, Daubenton, and Cuvier, are the most celebrated, and we shall presently notice some of these more at large. As a descriptive writer, Pennant is also conspicuous; and the histories of quadrupeds contained in his "British Zoology" and "Arctic Zoology", are at once accurate and interesting, amusing and instructive. But of all those naturalists who have professed to give a detailed account of the history of quadrupeds, none have acquired such celebrity as the Count de Buffon, whose work is in every one's hands, and has been translated into most of the modern languages. For animated and lively descriptions, and acute and brilliant remarks, Buffon is perhaps unrivalled: method he seems to have despised; and it is to be regretted that his judgement is not always equal to his taste, and that his accuracy is sometimes less conspicuous than his genius and fancy. There are also a certain freedom of expression, and luxuriosity of description, in treating of certain subjects, which render Buffon's work less proper for young people than for those who are more advanced both in years and in the study of nature. Dr Goldsmith's "History of the Earth and Animated Nature" is chiefly an abridgement of Buffon.

Classification. Mr Bewick's "General History of Quadrupeds", with wooden cuts, deserves much praise. In his descriptions, he has selected with much skill and taste, and has added many original and judicious observations, especially respecting the domestic and indigenous animals of this country. His figures are in general excellent, and his vignettes both useful and entertaining.

10 Shaw.  
Among the latest systematic works written on this subject is the elegant and splendid "General Zoology" of Dr Shaw. As a museum for acquiring a knowledge of the form and external structure of animals, this work has been surpassed by none, and equalled by very few. Description of the habits or manners of the animals seems to have been a secondary object with Dr Shaw, as of this his work contains very little. It is chiefly valuable as a *systematic arrangement* and general *muscum*.

11 Bingley.  
We have seen few works more entertaining than Mr Bingley's "Animal Biography". It is professedly a compilation, but the extracts are well chosen, and in general highly interesting. We cannot say, however, that they are always happily arranged. As Mr Bingley uniformly quotes his authorities, and has given a list of many valuable works from which he has drawn his information, his work is very useful, and forms an admirable companion to Dr Shaw's Zoology.

In the following account of the mammalia, we shall endeavour to combine amusement with utility; but, as our limits are exceedingly confined, we can give a detailed account of very few species. We shall therefore select the most interesting individuals, referring here generally to Buffon, Pennant, Bewick, Shaw, and Bingley for the rest.

With respect to the general divisions of quadrupeds and the terms employed in describing them, we need say nothing here; the former will be seen from the several classifications to be immediately mentioned, and the latter are explained under their proper heads in the general alphabet of this dictionary. Respecting the general anatomical structure of the mammalia, we could add little to what has been already given under *Comparative ANATOMY*. When there occurs any striking peculiarity of conformation in particular individuals, it will be noticed in its proper place.

## PART I. CLASSIFICATION OF THE MAMMALIA.

12 Classification of Linnæus.  
QUADRUPEDS have been very differently classified by different naturalists. Our limits will permit us only to give a brief sketch of some of the more important arrangements, and we shall select those of Linnæus, Pennant and Cuvier.

Linnæus divides the mammalia into seven orders, the distinctive characters of which are chiefly derived from the number, situation, and structure of the teeth.

### ORDER I. PRIMATES.

This order is intended to contain man and those animals which are most nearly allied to him in their structure. They have usually four cutting teeth in the fore part of each jaw, and in the upper jaw these are parallel; and they have one canine tooth on each side of these in each jaw. They have also two breasts or teats, from which this class derives its name. The two fore feet in many of the individuals resemble the hands of the human species, and are employed for the same purposes, having fingers furnished for the most part with oval flattened nails. They chiefly live on vegetable food. Under this order Linnæus ranks four genera, viz. man, the ape tribe, the lemur tribe, and the bats.



## ORDER II. BRUTA.

These have no front teeth in either jaw; their feet are armed with strong blunt nails like hoofs; they are generally of a clumsy form, and slow in their movements; they feed chiefly on vegetables. This order contains nine genera, of which the principal are the rhinoceros, the elephant, the sloths, and ant-eaters.

## ORDER III. FERÆ.

These have commonly six front teeth in the upper and under jaw, which are somewhat of a conical shape, and next to these strong and sharp canine teeth, with grinders that terminate in conical pointed eminences; their feet are divided into toes which are armed with sharp crooked claws. Almost all the animals of this order are beasts of prey, living chiefly on the flesh of other animals. The order comprehends ten genera, the most remarkable of which are, the seal, dog, cat, weazel, and bear tribes.

## ORDER IV. GLIRES.

These have two front teeth in each jaw, and these are remarkably long and large, but they have no canine teeth; their feet are furnished with claws, and appear formed both for running and leaping. Their food consists of vegetables. This order also contains 10 genera, the principal of which are the porcupines, beavers, rats, squirrels, and hares.

## ORDER V. PECORA.

These have several front teeth that are blunt, and have a wedge-like form, in the lower jaw, but no front teeth in the upper; their feet are armed with cloven hoofs; they have four stomachs, feed entirely on vegetables, and ruminant or chew the cud. There are in this order eight genera, comprehending the camel, the musk animal, the giraffe, and the deer, antelope, goat, sheep, and ox tribes.

## ORDER VI. BELLUÆ.

These have front teeth in both jaws that are obtuse; their feet are armed with hoofs that are in some species entire, and in others subdivided. Most of them live entirely on vegetable food. There are four genera, comprising those of the horse, hippopotamus, tapir, and hog.

ORDER VII. The last order is that of the CETÆ, or *Whales*; for which, see CETOLOGY.

<sup>13</sup>  
Objections  
to Lin-  
næus's ar-  
rangement.

Several objections have been made to the above arrangement of Linnæus, and some of them appear to be sufficiently valid. It has been objected with great reason, that man, the lord of the creation, is degraded by being placed under the same division with apes, monkeys, macaocos and bats, the companions which Linnæus has thought proper to allot to him. However nearly the apes may resemble man in their general appearance, and the macaocos in the use of their fore extremities, they should surely have been considered apart from

man; and nothing, it is said, can be more absurd than to arrange the insignificant fly bat with any of the former animals, because it agrees with them in the number and situation of its teeth. To the second order it is objected that the most intelligent of quadrupeds, the half-reasoning elephant, is made to associate with the most discordant and stupid of the creation, with sloths, ant-eaters, and armadillos, or with creatures of a quite different element, walruses and morfes. In the third order again, which from its name should comprehend only the wild beasts, or beasts of prey, it will be impossible (says Mr Pennant) to allow the mole, the shrew, and the harmless hedge-hog, to be the companions of lions, wolves, and bears. We may err in our arrangement

*Sed non ut placidis locant immitia, non ut  
Serpentes avibus geminentur, tigribus agni\*.*

\* Pen-  
nant's Sy-  
nopfis,  
Pref.

To the sixth order it has been objected that the hoofed animals arranged under it are so dissimilar in their nature, that they ought not to be placed together without some intermediate gradations.

To many of the above objections it may be replied, <sup>14</sup> Answered. that all artificial arrangements have their disadvantages, and that if we follow nature in placing together only those animals that resemble each other in their external appearance, or in their habits of life, we shall often be obliged to arrange the individuals of what most naturalists consider as the same genus under very different parts of our system. The great object of a systematic arrangement is to facilitate the discovery of objects that are unknown; and for this purpose, in respect to quadrupeds, there is perhaps no method preferable to that which is founded on the diversity of their teeth and feet. We shall in the following article, as we have done in most of the preceding departments of natural history, adopt the arrangements of Linnæus, modifying according to the latest improvements of Gmelin and Shaw.

Our celebrated British naturalist, Mr Pennant, published the first edition of his *Synopsis of Quadrupeds* in 8vo. in 1771; and ten years after he published a third edition under the new title of *History of Quadrupeds*, in 2 vols. 4to. This work has gone through some other editions, and is justly admired for the quantity of information which the author has contrived to give in a very condensed form. <sup>15</sup> Classification of Pennant.

Mr Pennant distributes quadrupeds into four general divisions, containing such as are hoofed, digitated, pinnated, and winged.

The first division is subdivided into two sections: the first containing those animals whose hoofs are entire or of one piece, of which there is only one genus, viz. HORSE. The second section those which are cloven-hoofed; of which there are 13 genera, comprising the OX, SHEEP, GOAT, GIRAFFE, ANTELOPE, MUSK, CAMEL, HOG, RHINOCEROS, HIPPOPOTAME, TAPIR, and ELEPHANT.

The second division consists of digitated animals, or those whose feet are divided into toes. It is subdivided into five sections; the first of which consists of those animals that are anthropomorphous, or which, in some measure, resemble man in their external form. Of these there are two genera, viz. APE and MACAUCCO. The second section consists of rapacious carnivorous animals,



Classification.

Classification.

mals, having six or more cutting teeth in each jaw, and large canine teeth separated from the cutting teeth. Of these there are eight genera, comprehending those of the DOG, HYÆNA, CAT, BEAR, BADGER, OPOSUM, WEAZEL, and OTTER. The third section contains animals that have no canine teeth, and only two cutting teeth in each jaw, being generally herbivorous or frugivorous. Of these there are 11 genera, viz. CAVY, HARE, BEAVER, PORCUPINE, MARMOT, SQUIRREL, JERBOA, RAT, SHREW, MOLE, and HEDGEHOG. The fourth section comprehends those animals which are without cutting teeth, and which, like those of the last section, live on herbs and fruits. This section contains only two genera, viz. those of the SLOTH and ARMADILLO. The fifth section contains animals that are destitute of teeth, and live on insects. Of these there are two genera, viz. MANIS and ANT-EATER.

The third division consists of those animals that are pinnated or furnished with fins, and chiefly live in the water, feeding partly on fish and partly on herbage. Of these there are three genera, viz. the WALRUS, SEAL, and MANATI.

The fourth division, or that of the winged quadrupeds, contains the single genus of the BAT, which being placed last in the order of quadrupeds, is thus made to form the connecting link between them and the class of birds.

16  
Of Cuvier.

According to Cuvier's arrangement, the mammalia are divided into three general orders: 1. Those having claws or nails; 2. Those having hoofs; and, 3. Those having feet like fins: a division very similar to that of Mr Pennant. The first of these orders is subdivided into those mammalia that have three sorts of teeth, and those that want at least one kind of teeth.

The first subdivision of the first order contains three families, viz.

I. BIMANUM, having thumbs separate on the atlantal \* extremities, comprehending MAN alone.

\* See Barclay on Anatomical Nomenclature.

II. QUADRUMANA, having the thumbs or great toes separate on each of the fore feet. This family contains two genera, viz. SIMIA or Apes, comprehending the sub-genera pithecus or *oran-otans*, callitrix or *sapajous*, cercopithecus or *guenons*, cynocephalus or *macaques*, papio or *baboons*, cebus or *alouates*; and LEMUR or *Mekis*, comprehending the sub-genera of lemur, indri, loii, galago, and tardipus.

III. SARCOFHAGA; having no separate thumbs or great toes on the atlantal extremity. This family is subdivided into four sections, viz. CHEIROPTERA, or those that have elongated hands and membranes, extending from the feet from the neck to the anus; PLANTIGRADA, or those that have no separate thumbs or great toes, and who, in walking, apply the whole sole of the foot to the ground; CARNIVORA, or such as have no separate thumbs or great toes, and whose feet, in walking, rest only on the toes; and PEDIMANA, or such as have separate great toes on the facial extremities or hind feet. The CHEIROPTERA comprise two genera, viz. VESPERTILLO or *Bats*, comprehending the sub-genera of pteropus or *rouffetes*, vespertilio or *common bats*, rinolophus, phyllostoma, and noctilio; and GALEOPTHECUS, or *Flying Lemurs*. The PLANTIGRADA contain four genera, viz. ERINACEUS or *Hedgehogs*, comprehending the sub-genera of erinaceus or *hedgehogs*, and setiger or *tenreecs*; SOREX or *Shrews*,

comprehending the sub-genera of forex or *shrew mke*, mygali or *musk shrew*; CHRYSO-CHLORIS, *Scalops*; talpa or *moles*; and URSUS or *Bears*, comprehending the sub-genera of ursus or *bears*, taxus or *badgers*, nassua or *coatis*, procyon or *racoons*; potos or *kincajous*, ichneumon or *mangonstes*. The CARNIVORA comprise four genera, viz. MUSTELA, or *Weazels*, comprehending the sub-genera of mustela, or *weazels* and *martins*, lutra or *otters*, mephites or *moissetes*, viverra or *ci-weets*; FELIS, or *Cat tribe*; and CANIS, or the *Dog tribe*, comprehending the sub-genera of canis and hyæna. The PEDIMANA contains only one genus, viz. DIDELEPHIS or *Opossum*, comprehending the sub-genera of didelphis or *Jariques*, dasyurus, phalangista or *phalangiers*.

IV. RODENTIA, or such quadrupeds as want only the canine teeth. This family comprises eight genera, viz. KANGURUS, *Kanguroos*; HYSTRIX or *Porcupines*; LEPUS, or *Hares* and *Rabbits*, comprehending the sub-genera of lepus and lagomys; CAVIA, comprehending the sub-genera of cavia and hydrochærus; CASTOR or *Beavers*; SCIURUS or *Squirrels*, comprehending the sub-genera of sciurus, and pteromys or *flying squirrels*; CHEIROMYS, or *Aye aye*; and MUS, or *Rats* and *Mice*, comprehending the sub-genera of arctomys or *marmots*, lemmus or *field mice*, fiber or *ondatra*, mus or *rats*, cricetus or *hamsters*, sphenax or *mole rat*, dipus or *jerboas*, myoxus or *ormice*.

V. EDENTATA, or those mammalia which have neither cutting nor canine teeth. This family comprises three genera, viz. MYRMECOPHAGA, or *Ant-Eaters*, comprehending the sub-genera of myrmecophaga, echidna or *porcupine ant-eaters*, and manis or *scaly lizards*; ORYCTEROPUS, or *Cape Ant-Eaters*; and DASYPUS, or *Armadillos*.

VI. TARDIGRADA, or such as are deficient only in cutting teeth. Of this family there is only one genus, viz. BRADYPUS, or *Sloths*; under which Cuvier arranges as a subgenus, the unknown animal which he calls *megatherium*.

The second order, or those quadrupeds that are furnished with hoofs, comprises three families, with the following distinctions and subdivisions.

VII. PACHYDERMATA, or those animals that have more than two toes and more than two hoofs. In this family there are six genera, viz. ELEPHAS or *Elephants*; TAPIR or *Tapirs*; SUS or *Swine*; HIPPOPOTAMUS or *River horse*; HYRAX or *Daman*; and RHINOCEROS.

VIII. RUMINANTIA, having two toes and two hoofs. Of this there are eight genera, viz. CAMELUS or *Camels*, divided into the sub-genera of camelus and lama; MOSCHUS or *Musks*; CERVUS or *Deer*; CAMELOPARDALIS or *Giraffe*; ANTELOPE or *Antelopes*; CAPRA or *Goats*; OVIS or *Sheep*; and BOS or *Oxen*.

IX. SOLIPEDA, having one toe and one hoof, and comprising only one genus, viz. EQUUS or *Horse*.

The third order, or the mammalia with fin-like feet, contains two families, viz. AMPHIBIA and CETACEA.

X. AMPHIBIA, having four feet, and comprising two genera, viz. PHOCA or *Seals*; and TRICHECUS or *Morses*.

XI. CETACEA, containing five genera, viz. MANATUS or *Lamantins*; DELPHINUS or *Dolphins*; PHYSE- \* *Lecons* \* *TER* or *Cachalots*; BALENA or *Common Whales*; and *Anatomie Comparée* \* *MONODON* or *Narwhals*.



## GENERIC CHARACTERS.

## ORDO I. PRIMATES.

HOMO. Situs erectus. Hymen et menstrua feminarum.

MAN. Posture erect. Female furnished with a hymen, and menstruating.

1. SIMIA. Dentes laniarii, hinc remoti.  
2. LEMUR. Dentes primores superiores 4; inferiores 6.  
3. GALEOPITHECUS. Dentes primores superiores nulli; inferiores 6.  
\* 4. VESPERTILIO. Manus palmato-volatilis (A).

- S. Tusks distant from each other.  
L. Fore teeth upper 4; lower 6 in number.  
G. Front teeth in the upper jaw wanting; in the lower 6.  
V. Fore feet palmate, formed for flying.

## ORDO II. BRUTA.

5. BRADYPUS. Dentes molares primo longiore, absque laniariis primoribusve. Corpus pilosum.  
6. MYRMECOPHAGA. Dentes nulli. Corpus pilosum.  
7. MANIS. Dentes nulli. Corpus squamatum.  
8. DASYPUS. Molares absque laniariis primoribusve. Corpus cataphractum.  
9. RHINOCEROS. Cornu in fronte positum.  
10. ELEPHAS. Dentes laniarii et molares. Nasus proboscide elongatus.  
11. SUKOTYRO. Cornu ad utrumque latus prope oculos.  
12. PLATYPUS. Os anatinum. Pedes palmati.  
13. TRICHECUS. Dentes laniarii superiores, molares ex osse rugoso. Pedes compedes.

- B. Grinders longer in front, without tusks. Body hairy.  
M. No teeth. Body hairy.  
N. No teeth. Body scaly.  
D. Grinders, without tusks or cutting teeth. Body crustaceous.  
R. Horn seated in front.  
E. Tusks and grinders. Nose elongated into a proboscis.  
S. A horn on each side near the eyes.  
P. Mouth like a duck's bill. Feet webbed.  
T. Upper tusks. Grinders rough and bony. Hind feet uniting into a fin.

## ORDO III. FERÆ.

- \* 14. PHOCA. Dentes primores superiores 6; inferiores 4.  
\* 15. CANIS. Dentes primores 6, 6; superiores intermedii lobati.  
\* 16. FELIS. Dentes primores 6, 6; inferiores æquales. Lingua aculeata.  
\* 17. VIVERRA. Dentes primores 6, 6; inferiores intermedii breviores.  
\* 18. LUTRA. Dentes ut in VIVERRA. Pedes palmati.  
\* 19. URSUS. Dentes primores 6, 6; superiores excavati. Penis osse flexuoso.  
20. DIDELPHIS. Dentes primores superiores 10; inferiores 8.  
21. DASYURUS. Dentes primores superiores 8; inferiores 6.  
22. MACROPUS. Dentes primores superiores 6; inferiores 2. Molares utrinque 5, remoti.  
\* 23. TALPA. Dentes primores superiores 6; inferiores 8.

- \* P. Six upper cutting teeth; 4 lower.  
\* C. Front teeth, six in each jaw; the intermediate upper ones lobated.  
\* F. Cutting teeth six in each jaw; the lower equal. Tongue aculeate.  
\* V. Cutting teeth 6 in each jaw; the intermediate lower ones shorter.  
\* L. Teeth as in the last genus. Feet webbed.  
\* U. Cutting teeth 6 in each jaw; the upper hollowed. Penis furnished with a flexible bone.  
D. Cutting teeth 10 in the upper jaw; 8 in the lower.  
D. Cutting teeth 8 in the upper jaw; 6 in the lower.  
M. Cutting teeth 6 in the upper jaw; 2 in the lower. Grinders 5 on each side, remote.  
\* T. Cutting teeth in the upper jaw 6; in the lower 8.

(A) The genera marked \* have one or more of the species indigenous to Britain.



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|--|--|------------------------|
| <p>Classification.</p> <p>* 24. SOREX. Dentes primores superiores 2; inferiores 4.</p> <p>* 25. ERINACEUS. Dentes primores superiores 2; inferiores 2.</p> | <p>* S. Cutting teeth in the upper jaw two; in the lower 4.</p> <p>* E. Cutting teeth two in each jaw.</p> | <p>Classification.</p> |
|--|--|------------------------|

21  
Glires.

## ORDO IV. GLIRES.

26. HYSTRIX. Corpus spinis tectum.
27. CAVIA. Dentes primores cuneati. Molares 4 ad utrumque latus. Claviculæ nullæ.
28. CASTOR. Dentes primores superiores cuneati. Molares ad utrumque latus. Claviculæ perfectæ.
- \* 29. MUS. Dentes primores superiores cuneati. Molares 3 ad utrumque latus. Claviculæ perfectæ.
30. HYDROMYS. Pedes posteriores palmatæ. Cauda cylindrica.
31. ARCTOMYS. Dentes primores cuneati. Molares superiores 5, inferiores 4, ad utrumque latus. Claviculæ perfectæ.
- \* 32. SCIURUS. Dentes primores superiores cuneati; inferiores acuti. Molares superiores 5, inferiores 4, ad utrumque latus. Claviculæ perfectæ. Cauda disticha. Mystaces longæ.
- \* 33. MYOXUS. Mystaces longæ. Cauda rotunda, apice crassior.
34. DIPUS. Pedes anteriores perbreves; posteriores prælongi.
- \* 35. LEPUS. Dentes primores superiores duplicati.
36. HYRAX. Dentes primores superiores lati. Cauda nulla.
- H. Body covered with spines.
- C. Cutting teeth wedge shaped. Grinders 4 on each side. Clavicles wanting.
- C. Upper cutting teeth wedge-shaped. Grinders 4 on each side. Clavicles complete.
- \* M. Upper cutting teeth wedged shape. Grinders 3 on each side. Clavicles complete.
- H. Hind feet webbed. Tail round.
- A. Cutting teeth wedged shape. Grinders 5 in the upper jaw, 4 in the lower, on each side. Clavicles complete.
- \* S. Upper cutting teeth wedge-shaped; lower acute. Grinders 5 in the upper jaw, 4 in the lower, on each side. Clavicles complete. Tail spreading towards each side. Whiskers long.
- \* M. Whiskers long. Tail round, thicker at the tip.
- D. Four fore feet short; hind feet very long.
- \* L. Upper cutting teeth double.
- H. Upper cutting teeth broad. Tail wanting.

22  
Pecora.

## ORDO V. PECORA.

37. CAMELUS. Ecornis. Dentes laniarum plures.
38. MOSCHUS. Ecornis. Dentes laniarum solitarii; superioribus exsertis.
- \* 39. CERVUS. Cornua solida, ramosa, decidua. Dentes laniarum nulli.
40. CAMELOPARDALIS. Cornua brevissima. Pedes anteriores posterioribus multo longiores.
41. ANTILOPE. Cornua solida, simplicia, persistens. Dentes laniarum nulli.
- \* 42. CAPRA. Cornua tubulosa, erecta. Dentes laniarum nulli.
- \* 43. OVIS. Cornua tubulosa reclinata. Dentes laniarum nulli.
- \* 44. BOS. Cornua tubulosa porrecta. Dentes laniarum nulli.
- C. Without horns. Tusks many.
- M. Without horns. Tusks single; upper projecting.
- \* C. Horns solid, branching, deciduous. Tusks wanting.
- C. Horns very short. Fore feet much longer than the hind.
- A. Horns solid, unbranched, persistent. Tusks wanting.
- \* C. Horns hollow, erect. Tusks wanting.
- \* O. Horns hollow, reclined. Tusks wanting.
- \* B. Horns hollow, turned outwards. Tusks wanting.

23  
Belluæ.

## ORDO VI. BELLUÆ.

- \* 45. EQUUS. Dentes primores superiores 6; inferiores 6.
46. HIPPOPOTAMUS. Dentes primores superiores 4; inferiores 4.
47. TAPIR. Dentes primores superiores 10; inferiores 10.
- \* 48. SUS. Dentes primores superiores 4; inferiores 6.
- \* E. Cutting teeth 6 in each jaw.
- H. Cutting teeth 4 in each jaw.
- T. Cutting teeth 10 in each jaw.
- \* S. Cutting teeth in the upper jaw 4; in the lower 6.

## ORDO VII. CETÆ.—See CETOLOGY.

PART



## PART II. ARRANGEMENT AND HISTORY OF THE SPECIES.

## CHAP. I. PRIMATES.

OF this order we shall here give an account only of the four genera, SIMIA, LEMUR, GALEOPITHECUS, and VESPERTILIO, reserving MAN for a separate article.

24  
Simia.

## Genus I. SIMIA. APES.

Front teeth four in each jaw, near together; canine solitary, longer than the others, and at a distance from the grinders. Grinders obtuse.

The animals of this genus, which are best known by the familiar name of apes or monkeys, form a very interesting part of the animal creation; not so much for their importance and utility in relation to man, as on account of the near resemblance that they bear to the human species. They are a very lively tribe of animals, full of frolic, chatter, and grimace. From the structure of their limbs, they are capable of performing many actions in common with man; and we shall presently relate some diverting instances of their imitative powers. Most of them are fierce and untameable, though some are of a more gentle nature, and even seem capable of an attachment to man. In general, however, they are prone to mischief, and are filthy, obscene, lascivious, and thievish. When offended, they use threatening gestures; and when pleased, they appear to laugh. Many of them have cheek pouches, in which they keep for a while such food as they have not immediate use for. They are commonly gregarious, going together in vast companies, the different species never mixing with each other, but keeping apart, and in different quarters. They inhabit woods, and live on trees, leaping with vast activity from one tree to another, even though loaded with their young, which cling to them. They are not carnivorous, but chiefly feed on fruits and leaves, sometimes on insects, though, for mischief's sake, they will often rob the nests of birds of their eggs and young. They are themselves the prey of serpents, which pursue them to the trees and swallow them entire. They are also devoured by leopards and similar beasts of prey. Some species are eaten by the natives of the countries where they are found.

These animals are almost confined to the torrid zone, and, in particular, the woods of Africa, from Senegal to the Cape, and from thence to Ethiopia, are crowded with them. They are found in all parts of India, and its islands, in the south of China, in Cochin-China and Japan; and they swarm in the forests of South America, from the isthmus of Darien to Paraguay.

In some parts of India monkeys are objects of worship by the natives, and magnificent temples are erected in honour of them (B). In these countries they frequently come in vast numbers into the cities, and enter the houses without molestation. In Amadabad, the capital of Guzarud, there are three hospitals for animals, where lame and sick monkeys, and such as, though well, choose to dwell there, are fed and cherished. Twice a week the monkeys of the neighbourhood assemble spontaneously in the streets of this city, mount on the houses which are flat-roofed, and lie here during the great heats. On these days the inhabitants take care to leave for them rice, millet, or fruit; and if by any accident they omit to do this, the disappointed animals become furious, break the tiles, and do other mischief.

From the great number of species, it has been found convenient to distribute them into three subdivisions, viz. those of apes, baboons, and monkeys. We shall enumerate the species under each of these subdivisions, with their specific characters, and shall then give a brief account of some of the most remarkable individuals.

A. APES, destitute of tails. In this subdivision are <sup>25</sup> reckoned 4 species, viz.

1. *S. Satyrus*, Gran Otan, or Wild Man of the Wood. Tailless, either chestnut colour or black, without callosities behind, and with the hair on the lower parts of the arms reversed.—2. *S. Lar*, Great Gibbon or long-armed A. Tailless, usually black, without callosities behind, and with arms as long as the body.—3. *S. Inuus*, Magot or Barbary A. Tailless; pale brown, with callosities behind and an oblong head.—4. *S. Sylvanus*, Pigmy. Tailless, pale brown, with callosities behind, and a roundish head.

B. BABOONS. Tails commonly short; bodies mus- <sup>26</sup>cular. In this there are 16 species, viz.

5. *S. Sphinx*, Common B. Short tailed; brown, with callosities behind, with dull flesh-coloured face and pointed nails.—6. *S. Mormon*, Mantegar, or Great B. Short-tailed; tawney brown, with callosities behind, naked tumid, violet blue cheeks, obliquely furrowed, and the middle of the nose blood red.—7. *S. Maimon*, Mandril or Ribbed-nose B. Short-tailed, olive brown, with callosities behind; naked violet-blue furrowed cheeks, and the middle of the nose flesh coloured.—8. *S. Porcaria*, or Hog-faced B. Short-tailed, brown, covered behind, with black naked hog-like face and pointed nails.—9. *S. Sylvicola*, Wood B. Short-tailed; fleshy brown, with callosities behind, and with black naked face, hands, and feet.—10. *S. Sublutea*, Yellow

(B) When the Portuguese got possession of the island of Ceylon, they found in one of the temples dedicated to these animals, a golden casket containing the tooth of an ape; a relic which the natives held in such veneration, that they offered to redeem it at no less a price than 700,000 ducats. The viceroy, however, ordered it to be burned; but, some years afterwards, a fellow, who was in the Portuguese ambassador's train, having procured a similar tooth, pretended that it was the old one, and offered it to the priests, who were so much rejoiced at the recovery of their lost treasure, that they purchased it of the fellow for above 10,000l. of our money.



Primates.

low B. Short-tailed; yellow, freckled with black, with naked black face and hands, hairy on the upper surface.—11. *S. Cinerea*, Cinereous B. Short-tailed; cinereous, with the crown spotted with yellow; brown face and pale beard.—12. *S. Dentata*, Broad-toothed B. Short tailed, ash brown, with bluish face, and very large fore teeth.—13. *S. Fusca*. Brown B. Shortish tailed; brown, with callosities behind, a whitish face, and a very broad nose.—14. *S. Nemeſtrina*. Pig-tailed B. Olive brown, with short naked tail.—15. *S. Criſſata*. Crested B. Short tailed; black, with very long hair on the crown and cheeks; whitish breast, and bare face and hands.—16. *S. Apedia*, Little B. Short tailed; yellowish, without callosities behind, with thumbs standing close to the fingers, and furnished with rounded nails; the fingers with narrow ones.—17. *S. Hamadryas*, Dog-faced B. Tail gray, with callosities behind; sharpish claws, and the hairs on each side of the head very long.—18. *S. Ferox*, Lion-tailed B. Tailed; black, with very large whitish spreading beard.—19. *S. Cynofuros*. Pale brown, beardless, with callosities behind, and with longish flesh-coloured face; a whitish band across the forehead, and a longish sharp-pointed tail.—20. *S. Rugata*, Wrinkled B. Short-tailed, yellowish brown; whitish beneath, with flesh-coloured face, and large blood-red wrinkled callosities behind.

27  
Monkeys.

C. MONKEYS. Tails generally long. This subdivision contains 42 species, viz.

21. *S. Leonina*, Leonine Monkey. Black, with callosities behind, very large whitish beard, and very long tufted tail.—22. *S. Cynomolgus*, Hare-lipped M. Long-tailed, beardless, with callosities behind, rising bifid nostrils, and arched tail.—23. *S. Veter*, Purple-faced M. Long-tailed; white, with black beard.—24. *S. Roloway*, Roloway or Raloure M. Short-tailed, blackish; white beneath, with triangular face, furrounded by a white divided beard.—25. *S. Diana*, Diana or Spotted M. Long-tailed, blackish, freckled with white; the hair of the forehead and beard growing in a pointed form, with a lunated band across the forehead.—26. *S. Nafuta*, Long-nosed M. Long-tailed, blackish-rusty; pale ash-coloured beneath, with long naked flesh-coloured face.—27. *S. Flavescens*, Yellowish M. Long-tailed, bearded, cinereous; yellow, with black face and ears.—28. *S. Sabæa*, Green M. Long-tailed, yellowish gray, with black face, and callosities behind.—29. *S. Æthiops*, Mangabey or White-eyelid M. Long-tailed, beardless, with black face; white eyelids, white frontal band, and the hair on the forehead upright.—30. *S. Cephas*, Mustache M. Long-tailed, blackish rusty, whitish beneath, with bearded cheeks and yellowish crown; red eyelids and whitish muzzle.—31. *S. Nitans*, White-nosed M. Long-tailed, beardless, black, freckled with white; the thumb of the hands very short, and no callosities behind.—32. *S. Talapoin*. Long-tailed, olive-coloured; bearded cheeks, and black ears, nose, and soles.—33. *S. Maura*, Negro M. Long-tailed, blackish, with swarthy flesh-coloured face and breast, and blackish beard.—34. *S. Aygula*, Egret M. Long-tailed, beardless; gray, with a rising longitudinal tuft on the crown.—35. *S. Rubra*, Red M. Long-tailed, red pale ash-coloured beneath, with bearded cheeks, and a black or white band across the forehead.—36. *S. Sinica*, Chi-

nese M. Beardless, pale brown, with the hair of the crown spreading round horizontally.—37. *S. Petaurif-ſta*, Vaulting M. Olive black; white beneath, with a triangular white spot on the nose.—38. *S. Pileata*, Bonneted M. Rusty brown, whitish; yellow beneath, with black limbs, and the hair at the head rising circularly upwards.—39. *S. Mona*, Varied M. Olive rusty; white beneath, with the cheeks bearded, and a lunated whitish band across the forehead.—40. *S. Nafalis*, Proboscis M. Long-tailed, bearded, chestnut colour, with pale limbs and tail, and a very long nose.—41. *S. Nemeus*, Cochin-China M. Long-tailed, with bearded cheeks and white tail.—42. *S. Fulva*, Tawny M. Sub-ferruginous, with the lower part of the back orange, white beneath, with flesh-coloured face and ears.—43. *S. Hircina*, Goat M. Long-tailed, brown, with blue furrowed nose, and long-pointed beard.—44. *S. Comaſa*, Full-bottom M. Long-tailed, black, with very long spreading whitish hair on the head, and white tail.—45. *S. Ferruginea*, Bay M. Long-tailed, rusty, with black limbs and tail.—46. *S. Annulata*, Annulated M. Rusty brown, whitish beneath, with annulated tail, shorter than the body.—47. *S. Pithecica*, Fox-tailed M. Blackish brown, with the tips of the hair whitish, and very bushy tail.—48. *S. Iacchus*, Striated M. Long-tailed, with spreading hairy ears; crooked hairy tail and sharp claws, those on the thumb being rounded.—49. *S. Oedipus*, Red-tailed M. Long, red-tailed, beardless, with the hair of the head spreading downwards, and sharp nails.—50. *S. Rosalia*, Silky M. Long-tailed, silky hair, with long hair on the head; yellow body, reddish round the face, and pointed claws.—51. *S. Nudus*, Great-eared M. Long-tailed, black, with large naked square ears, orange-coloured feet, and pointed nails.—52. *S. Argentata*, Fair M. Long-tailed, beardless, white, with red face and brown tail.—53. *S. Beelzebub*, Preacher M. Bearded, black, the feet and tip of the tail brown; tail prehensile.—54. *S. Seniculus*, Royal M. Long-tailed, bearded red; tail prehensile.—55. *S. Paniscus*, Four-fingered M. Long-tailed, bearded, black, with four-fingered feet; tail prehensile.—56. *S. Fatuellus*, Horned M. Long-tailed, beardless, with two horns like tufts on the head; tail prehensile.—57. *S. Trepida*, Fearful M. Long-tailed, beardless, with upright hair on the head, and bluish feet; tail prehensile.—58. *S. Apella*, Weeper M. Long-tailed, beardless; brown body, black feet, and without callosities; tail prehensile.—59. *S. Capucina*, Capuchin M. Long-tailed, beardless, without callosities, with black crown and limbs, and hirsute prehensile tail.—60. *S. Sciurea*, Squirrel M. Long-tailed, yellowish gray, beardless, with orange-coloured hands and feet; four of the claws, and the hind feet pointed.—61. *S. Antiquensis*, Antigua M. Blackish brown, white beneath, with black limbs and face, bearded cheeks, and brown prehensile tail.—62. *S. Morta*, Naked-tailed M. Long-tailed, beardless, brown, with dusky muzzle, and naked scaly tail.

Species 1. *S. Satyrus*. Oran Otan, Wild Man of the Woods. *Chimpanzee*, *Jocko*. Tailless Ape.—It is generally believed by naturalists, that the animals which have been described under the names given above, are only varieties of the same species, differing from each other in size, colour, sex, and some other trifling shades of discrimination. Four remarkable specimens have

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28

Satyrus,  
Oran Otan.



have been described by authors of repute; one by our countryman Tyfon; and another by Professor Allamand; a third by Vofnaer; and a fourth by Edwards.

The oran otan is faid fometimes to have attained the height of fix feet: the fpecimens brought into Europe have feldom exceeded the half of that stature. His ftrength, however, is very great; and, in his native forefts, it is faid that the moft mufcular man is by no means a match for him. His colour is ufually a dusky brown; almof the whole body, except the feet and palms of the hands, is covered with hair: but in fome varieties the face is faid to be nearly as bare as the human. Indeed there is no animal which bears fo ftrong a refemblance to man as this fpecies. His hands, feet, and ears are almof exactly human; and, to a fuperficial obferver, many others of its features fo nearly refemble thofe of man, that he has been confidered, by fome writers, as man in his rudeft and moft uncultivated ftate. On a clofer examination, however, it has been found, that there are marks of diftinction fufficiently ftrong to overturn an opinion fo humiliating to the lords of the creation, and to demonftrate, that even in anatomical ftructure this animal differs as much from the moft favage of the human fpecies, as the latter does in point of fagacity and reasoning powers from the moft cultivated European. The nofe of the oran-otan is flatter, and his mouth wider, than that of the Negro; his forehead is more oblique; his chin has no elevation at the bafe, his eyes are much nearer each other, and the diftance betwixt the nofe and the mouth is much greater than in man. He has alfo no calves to his legs, and, though he fometimes walks on two, it is pretty certain that this attitude is not natural to him. Buffon has afferted that thefe animals always walk upright, and has made this circumftance one of the diftinguifhing characters of his divifion of apes. It is now, however, generally underftood, that this affertion is too hafly; and it is the opinion of thofe moft capable of judging, that the oran otan, like all other animals except man, was intended by nature to walk on all fours. See MAN.

On the whole it appears that there are two principal varieties of this fpecies; one of which has been diftinguifhed by the name of pongo, or great oran otan, and the other has been called jocko. The following account is given of the pongo by Battel. "This pongo is all proportioned like a man, but that he is more like a giant in ftature than a man; for he is very tall, and hath a man's face, hollow-eyed, with long hair upon his brows. His face and ears are without hair, and his hands alfo. He differeth not from man but in his legs, for they have no calf. He goes always upon his legs, and carrieth his hands clafped on the nape of his neck when he goeth upon the ground. They fleep in the trees and build fhelters from the rain. They feed upon fruit that they find in the woods and upon nuts, for they eat no kind of fleft. They cannot fpeak, and have no underftanding more than a beaft. The people of the country when they travel in the woods, make fires where they fleep in the night; and in the morning when they are gone, the pongo will come and fit about the fire till it goeth out; for they have no underftanding to lay the wood together. They go many together, and kill many negroes that travel in the woods. Many times they fall upon the elephants,

which come to feed where they be, and fo beat them with their clubbed fits, and pieces of wood, that they will run roaring away from them. Thofe pongoes are never taken alive, becaufe they are fo ftrong that ten men cannot hold one of them, but yet they take many of their young ones with poifoned arrows. The young pongo hangeth on his mother's belly, with his hands clafped about her, fo that when any of the country people kill any of the females, they take the young one, which hangeth faft upon his mother \*."

This is almof the only account which we have of the oran otan in its native ftate. The other relations of its habits and manners are defcriptive of it in a ftate of captivity, and of thefe we fhall prefer our readers with fome of the moft remarkable.

Mr Buffon gives us the following account of a jocko, which he faw in France. "The oran otan which I faw walked always on two feet, even when carrying things of confiderable weight. His air was melancholy, his gait grave, his movements meafured, his difpofition gentle, and very different from thofe of other apes. He had neither the impatience of the Barbary ape, the maliciousnefs of the baboon, nor the extravagance of the monkeys. It may be alledged (fays our author) that he had the benefit of inftruction; but the other apes, which I fhall compare with him, were educated in the fame manner. Signs and words were alone fufficient to make our oran otan act; but the baboon required a cudgel, and the other apes a whip; for none of them would obey without blows. I have feen this animal prefer his hand to conduct the people who came to vifit him, and walk as gravely along with them as if he had formed a part of the company. I have feen him fit down at table, unfold his towel, wipe his lips, ufe a fpoon or a fork to carry the victuals to his mouth, pour his liquor into a glafs, and make it touch that of the perfon who drank along with him. When invited to tea, he brought out a cup and faucer, placed them on the table, poured out the tea, and allowed it to cool before he drank it. All thefe actions he performed without any other infigation than the figns or verbal orders of his mafter, and often of his own accord. He did no injury to any perfon; he even approached company with circumfpection, and prefented himfelf as if he wanted to be cared for. He was very fond of dainties, which every body gave him: and as his breaft was difeafed, and he was affected with a teasing cough, this quantity of fweet-meats undoubtedly contributed to fhorten his life. He lived one fummer in Paris, and died in London the following winter. He ate almof every thing, but preferred ripe and dried fruits to all other kinds of food. He drank a little wine, but fpontaneoufly left it for milk, tea, or other mild liquors."

Doctor Tyfon describes the oran otan which was exhibited in London about the end of the feventeenth century as the moft gentle and loving creature that could be. Thofe that he knew on board the fhip in which he was brought to England, he would come and embrace with the greateft tendernels, and though there were other monkeys on board, it was obferved that he would never afociate with any of them, but always avoided their company as of nothing akin to them. He was fometimes dref in clothes of which he at length became very fond, would put on part of them without help, and carry the reft in his hands to fome of

Primates.

\* Buffon  
by Smeltzer,  
vol. viii.† Buffon,  
ubi fupra.



*Primates.* the company for their assistance. He would lie in bed, lay his head on the pillow, and pull up the bed clothes to keep himself warm\*.

\* *Anatomy of a Pigmy.*

Pere Carbaffon brought up an oran otan, which became so fond of him, that wherever he went it was always desirous of accompanying him: whenever, therefore, he had to perform the service of his church, he was obliged to shut it up in a room. Once, however, the animal escaped and followed the father to the church, where, mounting on the sounding board above the pulpit, he lay perfectly still till the sermon commenced. He then crept to the edge of the board, and overlooking the preacher, imitated all his gestures in so grotesque a manner, that the congregation was unavoidably caused to laugh. The father surprised and confounded at this ill-timed levity, reproved his audience for their inattention. The reproof failed in its effect; the congregation still laughed, and the preacher in the warmth of his zeal redoubled his vociferations and his actions; these the ape so exactly imitated, that the congregation could no longer restrain themselves, but burst into a loud and continued laughter. A friend of the preacher at length stepped up to him, and pointed out the cause of this improper conduct; and such was the arch demeanour of the animal, that it was with the utmost difficulty he could command his countenance and keep himself apparently serious, while he ordered the servant of the church to take the ape away.

Perhaps one of the most interesting accounts of the oran otan is that given by Vosmaer, and with this we shall close our history of this species.

See Fig. 1. Plate CCCL. "This animal (says M. Vosmaer) was a female; its height was about two Rhenish feet and a half. It shewed no symptoms of fierceness or malignity, and was even of a somewhat melancholy appearance. It was fond of being in company, and showed a preference of those who took daily care of it, of which it seemed to be sensible. Often when they retired, it would throw itself on the ground, uttering lamentable cries, and tearing in pieces the linen within its reach. Its keeper having sometimes been accustomed to sit near it on the ground, it took the hay of its bed, and laid it by its side, and seemed by every demonstration to invite him to be seated near. Its usual manner of walking was on all fours, like other apes, but it could also walk on its two hind feet only. One morning it got unchained, and we beheld it with wonderful agility ascend the beams and rafters of the building; it was not without some pains that it was retaken, and we then remarked an extraordinary muscular power in the animal, the assistance of four men being necessary to hold it in such a manner as to be properly secured. During its state of liberty it had among other things taken a cork from a bottle of Malaga wine, which it drank to the last drop, and had set the bottle in its place again. It ate almost every thing which was given to it; but its chief food was bread, roots, and especially carrots, all sorts of fruits, especially strawberries; and it appeared extremely fond of aromatic plants, and of the leaves and roots of parsley. It also ate meat, both boiled and roasted, as well as fish. It was not observed to hunt for insects like other monkeys, was fond of eggs, which it broke with its teeth, and sucked completely; but fish and roasted meat seemed its favourite food. It had been taught to eat with a spoon and a fork. When

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presented with strawberries on a plate, it was extremely pleasant to see the animal take them up one by one with a fork, and put them into its mouth, holding at the same time the plate in the other hand. Its common drink was water, but it also very willingly drank all sorts of wine, and particularly Malaga. After drinking, it wiped its lips; and after eating, if presented with a toothpick, would use it in a proper manner. I was assured (continues our writer), that on shipboard it ran freely about the vessel, played with the sailors, and would go like them into the kitchen for its mess.

At the approach of night, it lay down to sleep, and prepared its bed by shaking well the hay on which it slept, and putting it in proper order, and lastly covering itself with the coverlet. One day seeing the padlock of its chain opened with a key, and shut again, it seized a little bit of stick, and put it into the key-hole, turning it about in all directions, endeavouring to see whether the padlock would open or not. This animal lived seven months in Holland. On its first arrival it had but very little hair except on its back and arms; but on the approach of winter it became extremely well covered; the hair on the back being three inches in length. The whole animal then appeared of a chestnut colour; the skin of the face, &c. was of a mouse colour, but about the eyes and round the mouth, of a dull flesh colour." It came from the island of Borneo, and was after its death deposited in the museum of the prince of Orange.

3. *S. Inuus.* Magot, Barbary Ape.—This species is <sup>29</sup> *Inuus*, considered by some naturalists as forming the connecting link between the ape, properly so called, and the baboons. Like the latter it has posterior callosities, and though it properly has no tail, it is furnished with an appendage of skin in the place where the tail is situated in other species. The hair on the greatest part of its body is of a greenish brown, the belly being paler than the rest; the face is of a swarthy flesh-colour, and the fingers and toes are furnished with nails resembling those of the human species.

It is found most commonly in Barbary and some other parts of Africa as far as the Cape of Good Hope, and it is also occasionally met with in Tartary, in Arabia, and in some parts of the Indian peninsula.

It is probable that Tavernier alludes to this species, in the account he gives of a custom amongst some of the inhabitants of India of amusing themselves at the expence of the ape. These people place five or six baskets of rice, forty or fifty yards asunder, in an open ground near their retreat, and by every basket put a number of stout cudgels, each about two feet long; they then retire to some hiding place not far distant, to wait the event. When the apes observe no person near the baskets, they soon descend in great numbers from the trees, and run towards them: they grin at each other for some time before they dare approach; sometimes they advance, then retreat seeming much disinclined to encounter. At length the females, which are more courageous than the males, especially those that have young ones (which they carry in their arms as women do their children), venture to approach the baskets, and as they are about to thrust their heads in to eat, the males on the one side advance to hinder them. Immediately the other party comes forward; and the feud being kindled on both sides, the combatants seize the cudgels,



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cudgels, and commence a most severe fight, which always ends with the weakest being driven into the woods, with broken heads and limbs. The victors, he tells us, then fall to in peace, and devour the reward of their labour.

Of all the apes this agrees best with the temperature of an European climate, and may easily be kept in a state of domestication. Buffon had one which he kept for several years. In summer he delighted to be in the open air, and in winter he appeared sufficiently comfortable in a room without a fire, which showed he was by no means delicate. He was always of a grave deportment, and sometimes dirty in his manner. His movements were brisk, and his countenance rather ugly than ridiculous. When agitated with passion, he exhibited and grinded his teeth. He filled the pouches of his cheeks with the food which was given him, and generally ate every thing except raw flesh, cheese, and whatever had undergone a kind of fermentation. When about to sleep, he loved to perch upon an iron or wooden bar. He was always chained, because though he had been long in a domestic state he was not civilized, and had no attachment to his masters. He seems to have been ill educated, for Buffon had seen others of the same species more intelligent, more obedient, more gay, and so docile as to learn to dance and make gesticulations in cadence, and to allow themselves peaceably to be clothed.

The flesh of this species is used as food by the wild Arabs.

4. *S. Sylvanus*. *Pitheque*. Pigmy.—This species greatly resembles the last, except that its head is rounder, and that it is much inferior in size, being seldom larger than a cat. It is thought by Mr Pennant to be the pigmy of the ancients; or one of that nation which was by them supposed to carry on periodical wars with the cranes. It is a native of Africa, and is also found in the East Indies and in Ceylon. They associate in troops, and live chiefly on vegetable food. They are often found walking erect. They are said to be very malicious and spiteful.

We are told by Marmol that they go in troops into the gardens or fields; but before they leave the thickets, one of them ascends an eminence from which he views the country; and when he sees no person, he gives the signal by a cry for the rest to proceed, and removes not from his station as long as they continue abroad: but whenever he perceives any person approaching, he screams with a loud voice, and by leaping from tree to tree they all fly to the mountains. Their flight is worthy of admiration; for the females, though they carry four or five young ones on their backs, make great springs from branch to branch. Though extremely cunning, vast numbers of them are taken by different arts. When wild they bite desperately, but by caresses they are easily tamed. They do much mischief to the fruits and corn; for they gather it together in heaps, cut it, and throw it on the ground whether it be ripe or not, and destroy more than they eat or carry off. Those who are tamed perform things incredible, and imitate every human action.

They chiefly reside in caverns, which gives the natives an easy opportunity of taking them alive. For this purpose the natives place vessels containing intoxicating liquors in the caverns frequented by the apes,

and these animals assemble together to drink these liquors. After having become intoxicated, they fall asleep, and are easily taken by the hunters.

5. *S. Sphinx*. Great baboon. *Papion*. *Mottled Sphinx*, *Great Baboon*.—This is a very large species, measuring when sitting on its posteriors, three or four feet high. It is very strong and muscular, especially towards the fore parts of the body; but its waist, as is common to all the baboons, is slender. All the nails are not pointed, those on the thumbs and great toes being rounded. The tail is short and thick, and rounded; the posteriors are perfectly bare and callous, and of a red colour.

The baboon is a native of Borneo, and of the hottest parts of the African continent. It lives chiefly on vegetables, but is said to be very fond of eggs. The female brings forth one young at a time, and carries it in her arms.

From the great size and strength of these animals they are not a little formidable; and as their natural disposition is very ferocious, it is dangerous to encounter any number of them in their native wilds.

The baboons are passionately fond of raisins, apples, and in general of all fruits which grow in gardens. Their teeth and paws render them formidable to dogs, who overcome them with difficulty, unless when eating has made them heavy and inactive. Buffon has remarked that they neither eat fish nor flesh, except when boiled or roasted, and then they devour both with avidity. In their expeditions to rob orchards, gardens, or vineyards, they generally go in troops. Some of them enter the inclosure, while others remain on the walls as sentinels to give notice of any approaching danger. The rest of the troop are stationed without the garden, at convenient distances from each other, and thus form a line, which extends from the place of pillage to that of their rendezvous. Matters being disposed in this manner, the baboons begin the operation, and throw to those on the wall melons, gourds, apples, pears, &c. Those on the walls throw these fruits to their neighbours below; and thus the spoils are handed along the whole line, which generally terminates on some mountain. They are so dexterous and quick-sighted, that they seldom allow the fruit to fall in throwing it from one to another. All this is performed with profound silence and great despatch. When the sentinels perceive any person, they cry, and at this signal the whole troop fly off with astonishing rapidity.

In confinement the great baboon loses nothing of his native ferocity. He is indeed one of the most unmanageable of his tribe, grinding his teeth, putting on a threatening aspect, and shaking the bars of his cage so as often to make the spectators tremble. Mr Smellie speaks of one that he saw at Edinburgh in 1779, that was remarkable for its size, strength, and beautiful colours. He was nearly five feet high, and was excessively fierce, presenting uniformly to the spectators a most threatening aspect, and attempting to seize every person that came within the length of his chain. On such occasions he made a deep grunting noise, and was perpetually tossing up his head. This seems to have been the same animal that is described by Mr Pennant as having been seen by him at Chester about two months after the time mentioned by Mr Smellie. He was particularly fond of cheese; his voice was a kind of roar not unlike that of a lion, but low and somewhat inward.

It

30  
*Sylvanus*,  
Pigmy.  
Fig. 3.

31  
*Sphinx*,  
Great Ba-  
boon.  
Fig. 4.



Primates.

\* *Smellie's Buffon*, vol. viii.

32 *Nemestrina*, Pig-tailed Baboon.

33 *Beelzebub*, Preacher Monkey. Fig. 5.

It went on all-fours, and never stood on its hind legs unless forced to do so by its keeper. He would frequently sit on his rump in a crouching posture, and drop his hands before his belly\*.

It is not a little extraordinary that an animal of this disposition should be kept in private houses as a pet, especially when we consider the mischiefs that they often commit. Dr Goldsmith says that he has seen one of them demolish a whole service of china, without appearing in the least conscious of having done amiss, though the mischief was evidently intentional.

14. *S. Nemestrina*. Pig-tailed baboon.—Olive brown, with short naked tail.

This is but a small species, seldom exceeding the size of a cat. The tail exactly resembles that of a pig. It is a native of Sumatra, and is very lively and active. He is sometimes seen in an exhibition in this country, but seldom lives long in a climate so much colder than his own.

Mr Edwards had a male of this species: it lived with him for a year, and was about the size of a common house cat. Another of the same species being at that time exhibited at Bartholomew fair in London, Mr Edwards carried his to compare with it; and he remarks that they seemed highly pleased with each others company, though this was the first time of their meeting.

53. *S. Beelzebub*. Preacher monkey.—This species is found in great numbers in the woods of South America, especially in Guiana and Brazil. It is the largest of the American monkeys, being about the size of a fox, and of a glossy black colour. There is in the throat of this animal a hollow bony substance, which is supposed to produce that peculiar dreadful howl for which this animal and the next species are so remarkable. They are exceedingly mischievous and spiteful, and if attacked they bite cruelly. They usually keep together in parties of from 20 to 30, rambling over the tops of the trees, and leaping with great agility from one tree to another. If they see any one approach alone, they always teaze and threaten him.

Marcgrave informs us that they assemble every morning and evening in the woods of Brazil, and make a most dreadful howling. Sometimes one of them mounts on a higher branch, and the rest seat themselves beneath: the first begins, as it were to harangue, and sets up a howl so loud and sharp as to be heard to a great distance: after a while, he gives a signal with his hand, when the whole assembly joins in chorus; but on another signal they are again silent, and the orator finishes his address. Their clamour is the most disagreeable and tremendous that can be conceived.

They are extremely sagacious; and when hunted, not only distinguish particularly those who are active against them, but defend themselves vigorously when attacked. When the hunters approach, the monkeys assemble together, uttering loud and fearful cries, and throwing at their assailants dried branches which they wrench from the trees. It is said that they never abandon each other, and that in passing from tree to tree they fling themselves headlong from one branch to another without ever falling to the ground, always catching hold either with their hands or tail. If they are not at once shot dead it is scarcely possible to take them, as, though mortally wounded, they cling so

firmly to the trees as to maintain their hold even after death.

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34 Lemur.

Gen. 2. LEMUR. *MACACOS*.

Four front teeth in the upper jaw, the intermediate being remote; six in the lower jaw, longer, stretched forwards, compressed, parallel and approximated. Canine teeth solitary and approximated. Grinders sublobated, the foremost of them being rather longer and sharper than the rest.

The animals of this genus resemble the monkey tribe in the use of their hands, but they are much less mischievous and ferocious than that tribe. None of them, except the *indri*, bears any resemblance to man; but in this species the arms, hands, body, and feet, are very similar to the human. A few of them are tailless, but most of them have long tails.

They are harmless inoffensive creatures, live chiefly in woods, and feed on fruits, vegetables, or insects. At least one species, viz. the 12th, serves for food to the natives of the countries where it is found.

There are 13 species which are distinguished by the following names and characters:

1. *Lemur Tardigradus*. Slow Lemur. Tailless; of a rusty ash colour, with a brown dorsal line; very small ears.—2. *L. Loris*. Loris. Tailless; of a rusty ash colour, with extremely slender limbs, and large ears.—3. *L. Indri*. Indri. Tailless; black grayish beneath, with the face and space round the anus whitish.—4. *L. Potto*. Potto. Tailed; subferruginous.—5. *L. Mongoz*. Mongoz or Woolly L. Long-tailed; gray brown.—6. *L. Macaco*. Ruffed L. Tailed; black, with the neck bearded like a ruff.—7. *L. Laniger*, Flocky L. Tailed; pale tawney, white beneath, with rusty tail.—8. *L. Catta*. Ring-tailed L. Tail long, and annulated with black and white.—9. *L. Bicolor*. Heart-marked L. Long-tailed; blackish white beneath, with a white heart-shaped spot on the forehead.—10. *L. Tarsier*. Tarsier. Long-tailed; ash-coloured; with slender almost naked tufted tail; and very long hinder feet.—11. *L. Murinus*. Tail long, and rusty; body ash coloured.—12. *L. Calago*. Whitish L. Tail long and rusty; body whitish, gray beneath.—13. *L. Ptilodactylus*. Long-fingered L. Ash-ferruginous, with extremely villose tail, and the middle finger of the hands very long and naked.

1. *L. Tardigradus*. Slow Lemur.—This animal is about the size of a small cat, with the body of an elephant pale brown or mouse-colour; a flattish face, extremely prominent eyes, that are surrounded with a circle of dark brown, and a sharpish nose. Of its manner in its native state we know almost nothing, but in a state of domestication it has been accurately observed.

35 *Tardigradus*, Slow Lemur. Fig. 7.

The late Sir William Jones had one of these animals in his possession for some time, and has given a very interesting account of its form and manners. This was published in the Asiatic Researches, from which we shall extract the most interesting particulars.

“In his manners he was for the most part gentle, except in the cold season, when his temper seemed wholly changed; and his Creator who made him so sensible to cold, to which he must often have been exposed even in his native forests, gave him probably for that reason,



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the Species.

his thick fur, which we rarely see in animals in these tropical climates: to me, who not only constantly fed him, but bathed him twice a-week in water accommodated to the seasons, and whom he clearly distinguished from others, he was at all times grateful; but when I disturbed him in winter, he was usually indignant, and seemed to reproach me with the uneasiness which he felt, though no possible precaution had been omitted to keep him in a proper degree of warmth. At all times he was pleased with being stroked on the head and throat, and frequently suffered me to touch his extremely sharp teeth; but his temper was always quick, and when he was unseasonably disturbed, he expressed a little resentment, by an obscure murmur, like that of a squirrel, or a greater degree of displeasure by a peevish cry, especially in winter, when he was often as fierce, on being much importuned, as any beast of the woods.

"From half an hour after sunrise to half an hour before sunset, he slept without intermission, rolled up like a hedgehog; and, as soon as he awoke, he began to prepare himself for the labours of his approaching day, licking and dressing himself like a cat; an operation which the flexibility of his neck and limbs enabled him to perform very completely: he was then ready for a slight breakfast, after which he commonly took a short nap; but when the sun was quite set he recovered all his vivacity.

"His ordinary food was the sweet fruit of this country; plantains always, and mangoes during the season; but he refused peaches, and was not fond of mulberries, or even of guaiavas: milk he lapped eagerly, but was content with plain water. In general he was not voracious, but never appeared satisfied with grasshoppers; and passed the whole night, while the hot season lasted, in prowling for them: when a grasshopper, or any insect, alighted within his reach, his eyes, which he fixed on his prey, glowed with uncommon fire; and having drawn himself back to spring on it with greater force, he seized the prey with both his fore paws, but held it in one of them while he devoured it. For other purposes, and sometimes even for that of holding his food, he used all his paws indifferently as hands, and frequently grasped with one of them the higher parts of his ample cage, while his three others were severally engaged at the bottom of it; but the posture of which he seemed fondest was to cling with all four of them to the upper wires, his body being inverted; and in the evening he usually stood erect for many minutes, playing on the wires with his fingers, and rapidly moving his body from side to side, as if he had found the utility of exercise in his unnatural state of confinement.

"A little before daybreak, when my early hours gave me frequent opportunities of observing him, he seemed to solicit my attention; and if I presented my finger to him, he licked or nibbled it with great gentleness, but eagerly took fruit when I offered it, though he seldom ate much at his morning repast; when the day brought back his night, his eyes lost their lustre and strength, and he composed himself for a slumber of ten or eleven hours.

"My little friend was, on the whole, very engaging; and when he was found lifeless in the same posture in which he would naturally have slept, I comforted myself with believing that he died without much

pain, and lived with as much pleasure as he could have enjoyed in a state of captivity."

Its pace is exceedingly slow, scarcely moving above six or eight yards in a minute; whence its name.

It is of considerable importance in a physiological point of view, to investigate the structure of these slow-moving animals, such as the species just described, and the sloth to be afterwards mentioned. An anatomical examination of the blood-vessels in the limbs of this species by Mr Carlisle has thrown considerable light on the connection of slow motion with a particular distribution of the arteries in the slow-moving limbs; this distribution is thus described by Mr Carlisle. "Immediately after the subclavian has penetrated the axilla it is divided into 23 equal-sized cylinders, which surround the principal trunk of the artery, now diminished in size to an inconsiderable vessel. These cylindrical arteries accompany each other, and divide with the ulnar and radial branches, being distributed in their route upon the muscles, each of which has one of these cylinders. The other branches, for example the radial and ulnar, proceed like the arteries in general, dispersing themselves upon the skin, the membranes, joints, bones, &c. in an arboresecent form. The iliac artery divides upon the margin of the pelvis into upwards of twenty equal-sized cylinders, surrounding the main trunk as described in the axillary artery. These vessels are also finally distributed, as in the upper extremity; the cylinders wholly upon the muscles and the arboresecent branches on all the other parts. The carotid arteries do not divide the equal-sized cylinders, but are distributed as in the general-ity of animals\*."

\* Shaw's  
Zoology,  
vol. i.

### Gen. 3. GALEOPITHECUS. CALUGO.

Front teeth in the upper jaw wanting; in the lower six, short, broad and pectinated. Canine teeth very short, triangular, broad, sharp and serrated. Grinders four, truncated, and mucated with conical protuberances. Flying-skin surrounding the body, limbs, and tail.

There is only one species, viz.

*G. Volans*. Flying Calugo, or Flying Lemur.—This is one of those extraordinary quadrupeds whom nature has raised above their usual element, and enabled them to transport themselves through the air in a manner which, though it cannot strictly be denominated flying, is at least very similar to it. The body of the flying lemur is about three feet long; but, except when the membrane is expanded, it is very slender. It has a slender tail, about a span long. The membrane, which extends from the neck to the fore legs, hind legs, and tail, is covered with fur, but appears membranaceous on the inner side. The upper side of the animal is of a deep ash colour, inclining to black when young, and the back is crossed transversely with blackish lines. Its head is long, its mouth small, and its teeth differ from those of every other quadruped hitherto examined. The cutting teeth in the lower jaw are deeply cut like a comb; the canine teeth, as Pallas calls them, (though Geoffroy thinks they are more properly cutting teeth), are triangular, very broad at the base, and very short. The cæcum or large intestine is very voluminous.

It is a native of the Molucca and Philippine islands, frequents woody places, and feeds on fruits, and probably

36  
Galeopithe-  
cus.

37  
Volans,  
Flying Le-  
mur.  
Fig. 8.

and probably



**Primates.** bably on insects. It almost constantly resides on trees; in descending from which it spreads its membranes, and balances itself in a gentle manner towards the place at which it aims, but in ascending it uses a leaping pace. It brings forth two young, which are said to adhere to the breasts of the parent by their teeth and claws.

Geoffroy and Cuvier make two varieties or species of this genus, viz. *G. Rufus*, Red Calugo; and *G. Variogatus*, Varied Calugo:—but these are probably no more than sexual differences.

**Genus 4. VESPERTILIO. BATS.**

<sup>38</sup>  
**Vespertilio.**

Teeth erect, sharp-pointed, and approximated; hands palmated; with a membrane surrounding the body, and enabling the animal to fly.

The animals of this genus have their atlantal extremities exceedingly long, especially what may be termed the fingers; and the delicate membrane that is stretched over them is so contrived, as to form a wing when the animals wish to fly, and to fold up into a small space when they are at rest. All the species have two breasts, more or less conspicuous, to which the young adhere. They have no cæcum.

The Bats are natives of very different regions; three of them are found in Britain, and several in the warmer regions of Asia and Africa; one in the West Indies, and a few in America. Those of warm climates are usually very large. Those which inhabit the colder regions lie all winter in a torpid state, without tasting nourishment. The smaller species live chiefly on insects which they seize in their flight; but the larger attack birds, or even the lesser quadrupeds.

From some experiments made by the abbé Spallanzani, on three species of this genus, it appears that these animals possess some additional sense, by which they are enabled, when deprived of sight, to avoid obstacles as readily as when they retained the power of vision. When the eyes of these bats were covered, or even entirely destroyed, they would fly about in a darkened room, without striking against the walls, and would constantly suspend their flight, when they came near a place where they could conveniently perch. In the middle of a dark sewer that turned at right angles, they would, though at a considerable distance from the walls, regularly alter the direction of their flight with the greatest nicety, when they came to the angles. When branches of trees were suspended in the room in which they were flying, they always avoided them, and even flew betwixt threads hung perpendicularly from the ceiling, though these were so near each other that they were obliged to contract their wings in order to pass through them.

These experiments were repeated by Vassali at Turin, by Rossi at Pisa, Spadon at Bologna, and Jurin at Geneva. M. Jurin conceives that no other of the five senses could, in these instances, supply the place of sight; and as, from some anatomical observations that he made on these animals, he found a prodigious number of nerves expanded on the upper jaws, the muzzle, and the organ of hearing, he conceived that those nervous productions would account for the extraordinary faculty above described. From some observations made by Mr Carlisle on this subject, it appears probable that the sense of hearing, which in the bat is uncommonly de-

licate, enables these animals when blinded, to avoid those objects which would impede their flight. This gentleman collected several specimens of the vespertilio auritus or large-eared bat, and observed, that when the external ears of the blinded ones were closed, they hit against the sides of the room, without being at all aware of their situation. They refused every species of food four days, as did a larger number which were afterwards caught and preserved in a dark box for above a week. During the day time they were extremely desirous of retirement and darkness; and, while confined to the box, never moved or endeavoured to get out during the whole day; and, when spread on the carpet, they commonly rested some minutes, and then beginning to look about, crawled slowly to a dark corner or crevice. At sunset the scene was quite changed: every one then endeavoured to scratch its way out of the box; a continued chirping was kept up; and no sooner was the lid of their prison opened, than each was active to escape, either flying away immediately, or running nimbly to a convenient place for taking wing. When the bats were first collected, several of the females had young ones clinging to their breasts, in the act of suckling. One of them flew with perfect ease, though two little ones were thus attached to her, which weighed nearly as much as their parent. All the young were devoid of down, and of a black colour\*.

Many of the larger species of bats attack men and other animals when asleep, make a slight wound with their sharp teeth so dexterously as not to awaken their victim, and then suck the blood. This property is attributed chiefly to one species, which we shall particularly notice presently; but it is probably possessed by most of the larger bats that inhabit the warm climates.

Some of the species may be employed as food.

There are described about 24 species of Bats; and as they are so numerous, they may be distributed into two sections, as the *tailed*, and the *tailless*.

**A. TAILED BATS, of which there are 18; viz.**

1. \* *Vespertilio murinus*, Common B. Nose inappendiculated; ears shorter than the head.—2. \* *V. Auritus*, Long-eared B. Nose inappendiculated; ears larger than the head, and double.—3. *V. Noctula*, Noctule B. Nose and mouth simple; oval ears and very small valves.—4. *V. Ferrum equinum*, Horse-shoe B. Nose horse-shoe shape; ears, valve lesser; tail half as long as the body.—5. *V. Serotinus*, Serotine B. Yellowish, with short emarginate ears.—6. *Pipistrellus*, Pipistrelle. Blackish brown, with convex front, and ovate emarginated ears, scarcely longer than the head.—7. *V. Barbastellus*, Barbastelle. Cheeks elevated, hairy; ears large, angulated below.—8. *Lasipterus*, Lasipter B. Membrane connecting the feet extremely broad, covered above with hair.—9. *V. Lasiurus*, Rough-tailed B. Lips tumid; tail broad and hairy.—10. *V. Cephalotes*, Mollucca B. Yellowish gray, with large head; spiral nostrils, small valveless ears.—11. *V. Pictus*, Striped B. Nose simple; ears funnel-shaped, appendiculated.—12. *Noveboracensis*, New-York B. Tail long, rusty; nose short and sharp; ears short and round, with a white spot at the base of each wing.—13. *Hispidus*, Bearded B.—Hairy, with channelled nostrils, and long narrow ears.—14. *V. Auripendulus*, Slouch-eared B. Nose blunt;

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\* See 720's  
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the Species.

blunt; ears large and pendent, with pointed tips.—15. *V. Lepturus*, Slender-tailed B. Nostrils tubular; tail slender, with a purse-shaped cavity on the inside of each wing.—16. *V. Nigrita*, Senegal B. Yellowish brown, with the forepart of the head, feet and tail black.—17. *V. Molossus*, Bull-dog B. Upper lip pendulous; tail stretching beyond the connecting membrane.—18. *V. Leporinus*, Peruvian B. Upper lip bifid.

B. TAILLESS BATS; of which there are 6; viz.

19. *V. Spasma*, Cordated B. A double heart-shaped leaf-like membrane on the nose.—20. *V. Sorcinus*, Leaf B. Snout lengthened, furnished with a heart-shaped leaf-like membrane.—21. *V. Hglatus*, Javelin B. Nose furnished with a trefoil-shaped upright membrane.—22. *V. Nafutus*, Great Serotine B. Rusty, with long sloping nose, and long upright rounded ears.—23. *V. Spectrum*, Spectre B. Nose furnished with a funnel-shaped pointed membrane.—24. *Vampyrus*, Vampire B. Nose without appendage; flying membrane divided between the thighs.

After having said so much on the general structure and habits of this genus, we shall briefly notice only two of the species.

39  
*Auritus*,  
Long-eared  
Bat.  
Fig. 9.

Species 2. *V. Auritus*, Long-eared B.—This is one of the most common species of Britain, and may be seen flying through the air in the evenings of summer and autumn, in search of insects. It is about two inches long, and seven from the tip of one wing to that of the other. Its ears are half as long as its body, very thin, and almost transparent, and within each there is a membrane which probably serves as a valve to defend the organ of hearing during the inactive state of the animal. These bats are sometimes taken by throwing up at them the heads of burdock whitened with flour. The animals either mistaking these for prey, or accidentally striking against them, are entangled by the hooked prickles, and brought to the ground. This is one of the species that remains in a torpid state during winter. At the end of summer they retire to their hiding places in old buildings, walls, or caverns, where they remain, generally in great numbers, suspended by the hind legs, and enveloped in their wings, till the genial warmth of summer again calls them forth. These animals are said to drink on the wing like swallows, and they love to frequent waters, partly for the sake of drinking, and partly to prey on the insects which hover over them. As Mr White was going pretty late on a warm summer's evening, in a boat on the Thames, from Richmond to Sunbury, he saw prodigious multitudes of bats between the two places; and he says, that the air swarmed with them all round the Thames, so that hundreds were in sight at a time. Bats are supposed to produce two young at a birth, and these they suckle for a considerable time. The young, when recently born, adhere most tenaciously to the nipple of the parent, so as not to be removed without great difficulty.

This animal is capable of being to a certain degree domesticated; and we are told by Mr White, that he was once much amused with the sight of a tame bat. "It would, says he, take flies out of a person's hand. If you gave it any thing to eat, it brought its wings round before the mouth; hovering and hiding its head in the manner of birds of prey when

they feed. The adroitness it shewed in shearing off the wings of flies (which were always rejected) was worthy of observation, and pleased me much. Insects seemed to be most acceptable, though it did not refuse raw flesh when offered; so that the notion that bats go down chimneys, and gnaw people's bacon, seems no improbable story. While I amused myself with this wonderful quadruped, I saw it several times confute the vulgar opinion, that bats, when down on a flat surface, cannot get on the wing again, by rising with great ease from the floor. It ran, I observed, with more dispatch than I was aware of, but in a most ridiculous and grotesque manner."<sup>40</sup>

Species 24. *V. Vampyrus*, Vampire Bat.—This is one of the largest species, being about a foot long, and nearly four feet in the extent of its wings; it is sometimes found even larger, and of the extent of six feet between the wings. Its colour is generally a deep reddish brown; its head is shaped like that of a fox, the nose being sharp and black, and the tongue pointed, and terminated by sharp prickles. The ears are naked, flattish, and pointed; and in colour resembling those of the common bat. These animals are said not to be carnivorous, but live principally upon fruit; and are so fond of the juice of the palm tree, that they will suck it till they are intoxicated, and fall motionless to the ground. They often hang together in vast clusters in hollow trees, or from the boughs of trees, and make a horrid noise. They are found in the Friendly islands, New-Holland, in South America, and in the East Indies.

Linnæus has given to this species the name *Vampyrus*, from the idea that this is the principal species that sucks the blood of people when asleep. It is not certain whether the bat by which Captain Stedman was attacked, while in Surinam, be this species; but his account of the accident is so diverting, that we shall give it in his own words. "I cannot here (says he) forbear relating a singular circumstance respecting myself, viz. that on waking about four o'clock one morning in my hammock, I was extremely alarmed at finding myself weltering in congealed blood, and without feeling any pain whatever. Having started up, and rung for the surgeon, with a fire-brand in one hand, and all over besmeared with gore; to which, if added, my pale face, short hair, and tattered apparel, he might well ask the question,

'Be thou a spirit of health, or goblin damn'd,  
Bring with thee airs from heaven, or blasts from hell?'

The mystery, however, was, that I had been bitten by the *vampire* or *speetre* of Guiana, which is called the *flying dog* of New Spain, and by the Spaniards, *perro-volador*: this is no other than a bat of a monstrous size, that sucks the blood from men and cattle while they are fast asleep, even sometimes till they die; and as the manner in which they proceed is truly wonderful, I shall endeavour to give a distinct account of it.—Knowing by instinct, that the person they intend to attack is in a sound slumber, they generally alight near the feet, where, while the creature continues fanning with his enormous wings, which keeps one cool, he bites a piece out of the tip of the great toe, so very small indeed, that the head of a pin could scarcely



Bruta.

scarcely be received into the wound, which is consequently not painful; yet through this orifice he continues to suck the blood, until he is obliged to disgorge. He then begins again, and thus continues sucking and disgorging till he is scarcely able to fly, and the sufferer has often been known to sleep from time into eternity. Cattle they generally bite in the ear, but always on places where the blood flows spontaneously. Having applied tobacco ashes as the best remedy, and washed the gore from myself and hammock, I observed several heaps of congealed blood all round the place where I had lain, upon the ground; on examining which, the surgeon judged that I had lost at least 12 or 14 ounces of blood during the night.\*

\* Steedman's Narrative.

The flesh of this species is considered by the Indians as excellent food, and it is said that the French residents sometimes boil them in their bouillon to give it a relish.

From the general appearance and usual time of flight of bats, they have always been looked on with a sort of superstitious terror, and are commonly introduced as principal objects in those awful scenes of haunted castles, and mysterious caverns, that have exercised the fancy of poets and romantic writers. The bat has been represented by the ancient epic poets as one of the inhabitants of that dreary vault that forms the entrance to the infernal regions; and it has from time immemorial lent its wings to decorate the shoulders of those terrific figures under which the ingenious fancy of painters has represented imps and demons. Probably the fabulous harpies of the ancient poets may be traced to a similar origin, as some of the larger bats may with a little poetical exaggeration, easily be converted into those rapacious and filthy beings.

This first order contains four genera, and about 100 species.

## CHAP. II. BRUTA.

## Genus 5. BRADYPUS. Sloths.

Cutting teeth wanting in both jaws; canine teeth single, obtuse, longer than the grinders, and placed opposite; grinders five on each side, obtuse; fore legs by much the longer; claws very long.

The animals of this genus are called *sloths*, as their movements, more especially those of one species, are very slow and sluggish. There are but three species, two of which are natives of South America, and the third of India. They all live chiefly on vegetable food, and are mild harmless creatures. They are thus distinguished.

1. *B. Tridactylus*, Three-toed S. Feet three-toed; tail short.—2. *B. Didactylus*, Two-toed S. Tailless; fore feet two-toed.—3. *B. Ursinus*, Ur sine S. Black, with very long shaggy hair; long snout, and five-toed feet.

We shall here give an account only of the first species, or the Three-toed S.

42  
*Tridactylus*, Three-toed Sloth.

*Bradypus Tridactylus*. This animal is remarkable for its slow movements, affording almost a singular example of languid motion and habitual inactivity. The following account of it is given us by Kircher. "Its figure is (he says) extraordinary: it is about the size of a cat, has a very ugly countenance, and claws ex-

tended like fingers. It sweeps the ground with its belly, and moves so slowly that it would scarcely go the length of a bow-shot in 15 days, though constantly in motion; hence it obtained the name of sloth. It lives generally on the tops of trees, and employs two days in crawling up, and as many in getting down again. Nature has doubly guarded it against its enemies, first, by giving it such strength in its feet, that whatever it seizes, it holds so fast, that it can never be freed, but must there die of hunger. 2dly. In having given it such an affecting countenance, that when it looks at any one who might be tempted to injure it, it is almost impossible not to be moved with compassion; it also sheds tears, and upon the whole persuades one that a creature so defenceless and so abject ought not to be tormented.

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"To try an experiment with this animal, the provincial had one of them brought to the Jesuit's college at Carthagen. He put a long pole under its feet, which it seized very firmly, and would not let go again. The animal, therefore, thus voluntarily suspended, was placed between two beams, where it remained without food for 40 days, the eyes being always fixed on those who looked at it, who were so affected that they could not forbear pitying its dejected state. At length, being taken down, a dog was let loose on it, this, after a while the sloth seized in its claws, and held till he died of hunger."

The slowness of its motions is, in the above account greatly exaggerated, as we are informed by later writers that it will move fifty or sixty paces in a day, and one that was on board ship climbed to the mast head in about an hour.

In ascending a tree, this animal first carelessly stretches out one of its fore paws, and fixes its claws in the bark of the tree, as high as it can reach, then heavily raises its body, and gradually fixes its other paw, thus ascending with the greatest slowness and apparent difficulty. When got up into the tree, he continues there till he has despoiled it of every thing that can serve him for food, and then to save himself the trouble of a tedious and difficult descent, it is said he suffers himself to drop from the tree upon the ground, being safe from any injury in the fall by his very tough and hairy skin. Here he remains till the calls of hunger again incite him to the arduous task of climbing another tree, when he proceeds in the same manner.

The female produces only one young, which she frequently carries on her back. This animal is a native of the hotter parts of South America.

In Dr Shaw's description of this species, it is remarked, that "the fore legs are *short*, the hinder ones far longer." As this contradicts the generic character, and is different from the other descriptions that we have read of the three-toed sloth, we suppose it to be an inadvertency, though Mr Bingley has copied the passage without remarking its incongruity.

The third species, or *ursine sloth*, is the same animal that is figured in Mr Bewick's History of Quadrupeds, p. 266, (2d edit.) and which was by him considered as a species of bear.

MEGATHERIUM. Some years ago, there was discovered below the surface of the earth in South America, an entire fossil skeleton of an animal at present unknown; but which M. Cuvier found to resemble the present

43  
Megatherium.



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the Species.

present genus more than any other. From its vast size, Cuvier gave it the name of *megatherium*, (*μεγα θηριον*, great wild beast), and he has given the following description of it in the "*Annales de Museum National*," accompanied with a figure.

"This skeleton is twelve feet (French) long, by six feet in height. The spine is composed of seven cervical, 16 dorsal, and four lumbar vertebræ; it has consequently sixteen ribs. The sacrum is short; the ossa ilia very broad, and their plane being almost perpendicular to the spine, they form a very open pelvis. There is no pubis or ischium, at least they are wanting in this skeleton, and there is no mark of their having existed when the animal was alive.

"The thigh bones are excessively thick, and the leg bones still more so in proportion; the entire sole of the foot bore on the ground in walking; the shoulder blade is much broader than long; the clavicles are perfect, and the two bones of the fore arm are distinct and moveable upon each other; the fore limbs are longer than the hind. To judge by the form of the last phalanges, there must have been very large pointed claws, enclosed at their origin in a long sheath. There appears to have been only three of these claws on the fore feet, and a single one on the hind; the other toes seem to have been deprived of them, and, perhaps, entirely concealed beneath the skin.

"The head is the greatest singularity of this skeleton; the occiput is elongated and flattened, but is pretty convex above the eyes; the two jaws form a considerable projection, but without teeth, there being only four on each side above and below, all grinders, with a flat crown, and grooved across; the breadth of the branches of the lower jaw, and the great apophysis placed on the base of the zygomatic arch, deserve particular notice.

"This quadruped, in its characters, taken together, differs from all known animals, and each of its bones, considered apart, also differs from the corresponding bones of all known animals. This results from a detailed comparison of the skeleton with that of other animals, and will readily appear to those who are conversant in such researches; for none of the animals which approach it in bulk have either pointed claws, or similarly formed head, shoulder blades, clavicles, pelvis, or limbs\*."

\* Vid. *Annales de Museum National*.  
44  
Myrmecophaga.

#### GENUS 6. MYRMECOPHAGA. ANT-EATERS.

Teeth wanting; tongue cylindrical and extensile; mouth lengthened out so as to be somewhat of a tubular form; body covered with hair.

The *ant-eaters*, as their name imports, live chiefly on ants and similar insects, and for this purpose they are furnished with a very remarkable tongue, it being of great length and of a roundish or worm-like form, and covered with a very glutinous saliva. This tongue the animals thrust into the nests of the ants, &c. and when a sufficient number of the insects has adhered to it, they withdraw the tongue and swallow the prey. Though the want of teeth makes part of the generic character, it appears from the observations of M. Brouffonet, that in most of the species there are certain bones or processes not unlike teeth, situated at the entrance of the gullet, or rather, according to Camper, at the

lower end of the jaws. The ant-eaters are confined to warm climates, and most of them have hitherto been found only in South America.

There are seven species described by Shaw, though Gmelin admits only five.

1. *M. jubata*. Great A. Gray brown; with four toes on the fore feet, five on the hind; long snout, and very long bushy tail.—2. *M. Tetradactyla*, Middle A. Four toes on the fore, and five on the hind feet, and half naked, prehensile tail.—3. *M. Tridactyla*, Three-toed A. Three toes on the fore, and four on the hind feet, and villose tail.—4. *M. Didactyla*, Little A. Two toes on the fore, and four on the hind feet, and prehensile tail.—5. *M. Capensis*. Cape A. Four toes on the fore feet; long snout; large pendant ears; tail shorter than the body, and attenuated towards the tip.—6. *M. Aculeata*, Spiny A. Tail very short.—7. *M. Striata*, Striped A. Yellowish, with transverse dusky bands, and the upper jaw longer than the lower.

Of the above seven species, it is probable that the third is only a variety of the second; and M. M. Cuvier and Geoffroy have placed the fifth in a new genus, *orycteropus*, (see p. 451) as it differs so considerably from the rest. Most naturalists agree that the spines on the body of the sixth entitle it, equally with the genus *MANIS*, to a separate place in systematic arrangement. On the whole, from an extensive consideration of this tribe, M. La Cèpede is of opinion that only three species should be admitted into it, viz. the first, second, and fourth. Of these the first and fourth are best known; the second, or what Cèpede calls *tamandua-i*, or *little tamandua*, has been well described by this naturalist in a memoir on the genus *MYRMECOPHAGA*, printed in the sixth volume of "*Memoires de l'Institut*."

#### Genus 7. MANIS.

45  
Manis.

Teeth wanting; tongue cylindrical and extensile: mouth lengthened into a narrow snout; body covered with scales.

This genus is nearly allied to the last, differing in little more than in the nature of the covering of the body, which in this is composed of large scales that are of a horny consistence, and extremely strong, constituting a suit of armour that is capable of defending the animals, when rolled up, against the attacks of the most ferocious enemies. The animals have the power of raising these scales; thus presenting to the assailants a most formidable front. From some distant resemblance to the lizard tribe (see *ERPETOLOGY*), the animals of this genus have been called *scaly lizards*, but they are more commonly known by the name of *pangolins*. They are harmless creatures, and feed on similar food with the ant-eaters, taking it in the same manner. They are found in India and the Indian islands.

There are only two, or at most three species, viz. 1. *M. Tetradactyla*, Long-tailed M, or Phatagin. Feet four-toed, and tail very long.—2. *M. Pentadactyla*, Short-tailed M, or *Pangolin*. Feet five-toed, and tail about as long as the body.—3. *M. Platurus*, Broad tailed M. Tail extremely broad.

It is doubtful whether the last be a distinct species, or only a variety, the effect perhaps of advanced age.



Bruta. So little is known of the habits and manners of these animals that we shall not dwell longer on them.

46  
Dasypus or  
Armadillo.

Genus 8. DASYPUS. ARMADILLOS.

Cutting and canine teeth wanting; grinders several; body covered with a shelly armour, divided into zones or bands.

The animals of this tribe are called *armadillos*, from the very singular *armour*, by which the upper part of their bodies is defended. This is composed partly of large irregular pieces covering the shoulders and rump, and partly of regular bands lying between these, and folding one over another, like the parts of a lobster's tail, so as to accommodate themselves to all the motions of the animal. The number of these bands varies in the several species; and though this circumstance makes part of the specific characters, it is doubtful whether it is sufficiently constant or exact, as various authors have numbered them very differently. The *armadillos* resemble each other so much in their habits and way of life, that a general account of them may suffice.

They are very harmless animals, and live retired in subterraneous retreats, which they burrow for themselves by means of the large strong claws with which their feet are furnished. They wander about chiefly by night, in search of roots, grain, worms, insects, and other small animals; when attacked, they coil themselves up in a ball like the pangolins, and are then invulnerable. They are said to drink much, and often grow very fat. They are very prolific, breeding three or four times in a year, and producing several young at a birth. They are all natives of South America, and are considered as excellent food. The Indians hunt them with small dogs trained for that purpose. When surprised, they run to their holes, or attempt to make a new one, which they do with great expedition, having strong claws on their fore feet, with which they adhere so firmly to the ground, that if they should be caught by the tail whilst making their way into the earth, their resistance is so great, that they will sometimes leave their tails in the hand of their pursuers: to avoid this, the hunter has recourse to artifice; and, by tickling the animal with a stick, it gives up its hold, and suffers itself to be taken alive. If no other means of escape be left, it rolls itself up within its covering, by drawing in its head and legs, and bringing its tail round them, as a band to connect them more forcibly together: in this situation it sometimes escapes by rolling itself over the edge of a precipice, and generally falls to the bottom unhurt.

The most successful method of catching *armadillos* is by snares laid for them by the sides of rivers or other places which they frequent.

There are six species of *armadillos*, that are, as we have said, chiefly distinguished by the number of shelly bands that envelope the middle part of their body.

1. *Dasypus Tricinctus*, Three-banded A. Armour  
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divided into three bands, and five-toed feet.—2. *D. Sexcinctus*, Six-banded A. Six bands, and five-toed feet.—3. *D. Septemcinctus*, Seven banded A. Seven bands, and fore feet four-toed, hind feet five-toed.—4. *D. Novemcinctus*, Nine-banded A. Nine bands; fore feet four-toed, hind feet five-toed.—5. *D. 12-cinctus*, 12-banded A. Twelve bands.—6. *D. 18-cinctus*, Eighteen-banded A. Eighteen bands.

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the Species.

Genus 9. RHINOCEROS.

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Rhinoceros.

Horn solid, perennial, conical, seated on the nose.

There are at least two species, viz. *R. Unicornis*, Single-horned R. with a single horn, and 2. *R. Bicornis*, Two-horned R. with two horns.

As both species are remarkable, both for their form and habits, we shall describe both pretty much at large.

1. *R. Unicornis*, Single-horned rhinoceros. This animal, if we except the elephant, is the largest of all terrestrial animals, and in strength and power it is exceeded by none. It is generally about 12 feet long, and nearly as many in the circumference of its body. Its whole form is very awkward and clumsy; its head is large and long; its back sinks in considerably, and its skin is puckered up into several folds, giving the animal the appearance as if it were invested with a coat of mail. The upper lip hangs over the lower in the form of a lengthened tip, which seems to answer the purpose of a small proboscis, and, being extremely pliable, is useful to the animal in taking hold of the shoots of vegetables, and delivering them into the mouth. The horn is situated on the nose, and is slightly curved, sharp pointed, and very strong, and is sometimes three feet long, and 18 inches round at the base. This horn the rhinoceros uses both as an offensive and defensive weapon, by which it is completely armed against the attacks of the most ferocious animals, who cannot face it without danger of having their bowels torn out. The Roman epigrammatist, Martial, long ago remarked, that with this horn the rhinoceros could lift up a bull as easily as a foot-ball. The ears are pretty large, upright and pointed; the eyes small. The skin is naked, very rough, and marked with numerous large callous granulations; it is destitute of hair, except a few straggling coarse bristles on some parts of the head. The folds of the skin are very remarkable, and are disposed in various parts of the body in a singular manner. There is one large plait about the neck, another passing through the shoulders to the fore legs, and a third from the hind part of the back to the thighs. The belly is pendulous like that of a hog; the legs are very short, strong and thick; and the feet marked with three large hoofs all standing forwards. The tail is slender, flattened at the end, and covered on the sides with very stiff, thick, black hairs (c).

This animal is a native both of the continent of Asia, and of several of the islands in the Indian ocean, especially Ceylon, Java, and Sumatra; and is sometimes found in Ethiopia. It usually resides in cool sequestered

3 N

(c) For an accurate osteological account of this species, with a figure of his skeleton by Cuvier, see *Annales de Museum National*, N° 13, or *Philosophical Magazine*, vol. xix.



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the Species.

questered spots near waters and in shady woods, and delights to roll itself in the mud. It seems to live entirely on vegetables.

The sight of this animal is but indifferent; but he is said to possess an acute and most attentive ear, and to listen with a deep, long-continued attention to any kind of noise. It is generally of a quiet inoffensive disposition, but when provoked or attacked, he becomes furious and implacable. He is even said to be subject to paroxysms of rage which nothing can allay. One that was sent as a present to the pope by Emmanuel king of Portugal in 1513, destroyed the vessel in which they were transporting it. He runs with great swiftness, and from his prodigious strength rushes with resistless violence through woods, and over every obstacle, bending the small trees as he passes like so many twigs.

The female produces but one young at a birth, but its time of gestation is not certainly known.

The flesh of this animal is eaten by the natives, who often engage in hunting parties against it. It is a difficult matter to kill the rhinoceros, its skin being so hard that an ordinary leaden bullet will not pierce it, and they are obliged to use iron bullets for that purpose. The horn is employed for many useful purposes, especially for making drinking cups, which are used by the Indian princes, under an idea that if any poisonous liquor is poured into them, it will ferment and boil over the top. Professor Thunberg tried several of these horns, both of old and young animals, wrought into goblets and unwrought, with several poisonous liquors, both weak and strong, without observing any effervescence; but on pouring a solution of corrosive sublimate into one of them, there arose a few bubbles, which he supposes to have been inclosed in the pores of the horn, and disengaged from them by the liquor. The skin is also employed by the Javaneze for making shields, and in some parts of India almost every part of the animal is used medicinally.

Several of these animals have been brought into Europe. Buffon gives an account of one, and Dr Parson has given a particular description of one that was brought to England from Bengal. This animal was only two years old, and yet consumed so much food, that his voyage cost 1000l. He had every day at three meals seven pounds of rice mixed with three pounds of sugar, besides hay and green plants, and he drank large quantities of water. He was in general, very quiet and peaceable, readily suffering people to touch every part of his body; but when hungry, or when struck, he became very mischievous, and nothing would appease him but food. At this time he was about the size of a young cow.

In the year 1748, there was exhibited at Paris a rhinoceros brought from the kingdom of Ava. It was very tame, gentle, and even caressing; was fed principally on hay and corn; and was much delighted with sharp or prickly plants, and the thorny branches of trees. The attendants frequently gave him branches that had very sharp and strong thorns on them; but he bent and broke them in his mouth without seeming in the least incommoded. It is true they sometimes drew blood from the mouth and tongue, but that, says Father Le Comte, who gives us the description, might even render them more palatable, and those little wounds

might serve only to cause a sensation similar to that excited by salt, pepper, or mustard on ours.

The rhinoceros is even sometimes domesticated, and brought into the field of battle by the Asiatics, in order to terrify their enemies; but he is so unmanageable, that his use seems to be attended with more disadvantage than benefit, and when wounded, they are as likely to turn on their masters as on the enemy.

*R. Bicornis*, Two-horned rhinoceros. In size, and in many of its general habits, this species greatly resembles the former, but differs much in its external appearance, as the skin, instead of the regularly marked folds in that, has only a slight wrinkle across the shoulders, and on the hind parts, so as, in comparison with the other species, to appear almost smooth, though its surface is rough and tuberculated, especially in the larger specimens. It is chiefly distinguished, however, by the two horns, one smaller than the other, and situated higher up on the front. These horns are said to be loose when the animal is quiet, but to become fixed and immovable when he is in an enraged state. Dr Sparrman has observed that these horns are fixed to the nose by a strong apparatus of muscles or tendons, so as to enable the animal to fix or relax them at pleasure, and on inspecting the horns and skin on which they are seated, it does not appear that the horns are firmly attached to the skull bone, or closely connected with it.

This species is found in various parts of Africa, and appears to have been that which was introduced by the Romans into their public shows.

Mr Bruce has given us an account of this animal, which is highly interesting. He says that besides the trees capable of most resistance, there are in the vast forests within the rains, trees of a softer consistence, and of a very succulent quality, which seem to be destined for his principal food. For the purpose of gaining the highest branches of these, his upper lip is capable of being lengthened out so as to increase his power of laying hold with it, in the same manner as the elephant does with his trunk. With this lip, and the assistance of his tongue, he pulls down the upper branches, which have most leaves, and these he devours first; having stripped the tree of its branches, he does not therefore abandon it, but placing his snout as low in the trunk as he finds his horns will enter, he rips up the body of the tree, and reduces it to thin pieces like so many laths; and when he has thus prepared it, he embraces as much of it as he can in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery, or any such pot herb or garden stuff.

When pursued, and in fear, he possesses an astonishing degree of swiftness, considering his size, the apparent unwieldiness of his body, his great weight before, and the shortness of his legs. He is long, and has a kind of trot, which after a few minutes increases in a great proportion, and takes in a great distance; but this is to be understood with a degree of moderation. It is not true, that in a plain he beats the horse in swiftness. Mr Bruce has passed him with ease, and seen many worse mounted do the same; and though it is certainly true that a horse can seldom come up with him, this is owing to his cunning, and not to his swiftness. He makes constantly from wood to wood, and forces himself into

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*Bicornis*.  
Two-horned Rhinoceros.

the



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the thickest parts of them. The trees that are dead or dry, are broken down, as with a cannon shot, and fall behind him and on his side in all directions. Others that are more pliable, greener, or fuller of sap, are bent back by his weight and the velocity of his motions: and after he has passed, restoring themselves like a green branch to their natural position, they often sweep the incautious pursuer and his horse from the ground, and dash them in pieces against the surrounding trees.

The eyes of the rhinoceros are very small; he seldom turns his head, and therefore sees nothing but what is before him. To this he owes his death, and never escapes if there be so much plain as to enable the horse to get before him. His pride and fury then make him lay aside all thoughts of escaping but by victory over his enemy. He stands for a moment at bay; then at a start runs forward at the horse like a wild boar, which in his manner of action he very much resembles. The horse easily avoids him by turning to one side, and this is the fatal instant; the naked man with the sword drops from behind the principal horseman, and unseen by the rhinoceros, who is seeking his enemy the horse, he gives him a stroke across the tendon of the heel, which renders him incapable of further flight or resistance.

In speaking of the great quantity of food necessary to support this enormous mass, we must likewise consider the vast quantity of water which he needs. No country but that of the Shangalla, which he possesses, deluged with six months rain, and full of large deep basins made in the living rock, and shaded by dark woods from evaporation, or watered by large and deep rivers, which never fall low or to a state of dryness, can supply the vast draughts of this monstrous creature: but it is not for drinking alone that he frequents wet and marshy places; large, fierce, and strong as he is, he must submit to prepare himself against the weakest of all his adversaries. The great consumption he makes of food and water necessarily confine him to certain limited spaces; for it is not every place that can maintain him; he cannot emigrate or seek his defence among the sands of Atbara.

This adversary is a fly (probably of the genus *OESTRUS*) which is bred in the black earth of the marshes: it persecutes him so unremittingly, that it would in a short time entirely subdue him, but for a stratagem which he practises for his preservation. In the night when the fly is at rest, the rhinoceros chuses a convenient place, and there rolling in the mud, clothes himself with a kind of case, which defends him against his enemy for the following day. The wrinkles and folds of his skin serve to keep this muddy plaster firm upon him, except about his hips, legs, and shoulders, where by motion it cracks and falls off, leaving him exposed to the attacks of the fly. The itching and pain which follow, occasion him to rub himself in those parts against the roughest trees, and this is supposed to be one cause of the numerous pustules or tubercles which we see upon him.

He seems to enjoy the rubbing of himself very much, and groans and grunts so loud during this action that he is heard at a considerable distance. The pleasure he receives from this enjoyment, added to the darkness of the night, deprives him of his usual vi-

gilance and attention. The hunters guided by his noise, steal secretly on him; and while lying on the ground, wound him with their javelins, mostly in the belly, where the wound is mortal.

It is by no means true that the skin of this rhinoceros, as it has been often represented, is hard and impenetrable like a board. In his wild state he is easily killed by javelins thrown from different hands, some of which enter many feet into his body. A musket shot will go through him, if it meet not with the intervention of a bone; and the Shangalla, an Abyssinian tribe, kill him by the worst and most inartificial arrows that ever were used by any people practising that weapon, and cut him to pieces afterwards with the very worst of knives.

To shew the amazing strength of the rhinoceros, even after being severely wounded, we shall quote Mr Bruce's account of the hunting of this animal in Abyssinia. "We were on horseback (says this gentleman) by the dawn of day in search of the rhinoceros, many of which we had heard making a very deep groan and cry as the morning approached. Several of the agageers (hunters) then joined us, and after we had searched about an hour in the very thickest part of the wood, one of them rushed out with great violence, crossing the plain towards a wood of canes that was about two miles distance. But though he ran, or rather trotted, with surprising speed considering his bulk, he was in a very little time transfixed with 30 or 40 javelins, which so confounded him that he lost his purpose of going to the wood, and ran into a deep hole or ravine, a *cul de sac*, without outlet, breaking above a dozen javelins as he entered. Here we thought he was caught as in a trap, for he had scarce room to turn, when a servant who had a gun standing directly over him, fired at his head, and the animal fell immediately to all appearance dead. All those on foot now jumped in with their knives to cut him up; and they had scarce begun, when the animal recovered so far as to rise upon his knees: happy then was the man that escaped first; and had not one of the agageers who was himself engaged in the ravine, cut the sinews of the hind leg as he was retreating, there would have been a very sorrowful account of the foot hunters that day.

"After having dispatched him, I was curious to see what wound the shot had given which had operated so violently upon so huge an animal, and I doubted not it was in the brain; but it had struck him no where but upon one of the horns, of which it had carried off above an inch, and this occasioned a concussion, that had stunned him for a minute till the bleeding had recovered him."

It has been often asserted that the tongue of the rhinoceros is so hard and rough as to take away the skin and flesh wherever it licks any person that has unfortunately fallen a victim to its fury. Dr Sparrman says, however, that he thrust his hand into the mouth of one that had just been shot, and found the tongue perfectly smooth and soft.

Fossil bones have been found below the earth in Siberia that seem to belong to a third species of rhinoceros, differing from the two above mentioned in having a longer head, and in the partition between the nostrils being otherwise shaped. It seems also to have had two horns. In 1772 a specimen was dug up



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almost entire, with the flesh and skin not yet quite corrupted.

<sup>50</sup>  
Elephas.

Genus 10. ELEPHAS.

No cutting teeth in either jaw, very long tusks in the upper jaw; nose ending in a very long prehensile proboscis; body nearly naked.

<sup>51</sup>  
Maximus.  
Elephant.  
Fig. 17.

We know of only one species, which has been called *elephas maximus*. Of all the animals that have engaged the attention of mankind from the earliest times, none has been so much, or perhaps so deservedly celebrated as the elephant. Possessed of magnitude and strength superior to all other quadrupeds, he is more gentle and tractable than almost any of them, and in sagacity and obedience to the commands of man, he is not excelled by any, except perhaps the dog.

The usual height of the elephant is nine or ten feet, though he is said to be sometimes found at least twelve feet high (D). His body is of a very clumsy and awkward form; his head very large; his back very much arched, and his legs very short, and extremely thick. His eyes are very small; but his ears large, pendulous, and irregularly waved about the edges. His trunk may be considered as one of the most wonderful instruments with which nature has gifted her most favoured animals, being little inferior in flexibility and utility, even to the hand of man. This organ appears to be composed of a great number of flexible rings, forming a double tube, ending in a circular tip that is somewhat flattened, and furnished with a projecting point, or fleshy moveable hook, of exquisite sensibility, and so pliable, that by means of it the animal can pick up from the ground almost the smallest object. Its lower surface is somewhat flattened, and it is circularly formed on the upper. The trunk is the principal organ of breathing to the elephant, being terminated by two orifices that are the nostrils. By means of this tube he supplies himself with food, taking hold of it with the trunk, and conveying it into his mouth. He drinks by sucking up the water into his trunk, and then pouring it into his mouth. The skull of the elephant is extremely thick, but not solid, there being a number of cavernous cells between the outer and inner laminæ. The feet of this animal are edged with five rounded hoofs; the tail is of a moderate length, and is terminated by a few scattered hairs, very thick, and of a black colour. The general colour of the skin is a dusky or blackish brown, but in some parts of India they are found of a white colour, though this is a rare occurrence.

The teeth of the elephant deserve particular notice, as, till lately, our information respecting them was very imperfect. It has long been known that the females either seldom have tusks, or that in them these are very short. The tusks of the male are sometimes of an immense length, those brought from the Mofambique and Cochin China having been seen 10 feet long.

Mr Corfe has given us the best account of the elephant's teeth; and we shall extract some of the most interesting particulars from his paper, which appeared in the Philosophical Transactions for 1799.

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The tusks in some female elephants are so small as not to appear beyond the lip, whilst in others they are almost as large and long as in one variety of the male, called mooknah. The grinders are so much alike in both sexes, that one description may serve for both. The largest tusks, and from which the best ivory is supplied, are taken from that kind of male elephant, called dauntelah from this circumstance, in opposition to the mooknah, whose tusks are not larger than those of some females. In one variety of the elephant the tusks point downwards, projecting only a little way beyond the trunk. The tusks in elephants are fixed very deep in the upper jaw; and the root or upper part, which is hollow, and filled with a core, goes as high as the insertion of the trunk, round the margin of the nasal opening to the throat; which opening is just below the protuberance of the forehead. Through this opening the elephant breathes, and by its means he sucks up water into his trunk: between it and the roots of the tusks there is only a thin bony plate. The first or milk-tusks of an elephant never grow to any considerable size, but are shed between the first and second year, when not two inches in length. The time at which the tusks cut the gum varies considerably: sometimes a young elephant has his tusks at five months old, and sometimes not till seven. Even in a foetus which has arrived at its full time, these deciduous tusks are formed. A young elephant shed one of his milk-tusks on the 6th of November, 1790, when about 13 months old, and the other on the 7th of December, when above fourteen months old. Two months afterwards the permanent ones cut the gums, and on the 19th of April, 1791, they were an inch long. Another young elephant did not shed his milk-tusks till he was 16 months old, which proves that the time of this process varies considerably. The permanent tusks of the female are very small compared with those of the male, and do not take their rise so deep in the jaw. The largest elephant tusks Mr Scot ever saw in Bengal did not exceed the weight of 72 pounds avoirdupois; and at Tiperah they seldom exceed 50 pounds each. Both these weights are very inferior to that of the tusks brought from other parts to the India house, where some have weighed 150 pounds each. These, Mr Scot suspects, were from Pegu. The African elephant is said to be smaller than the Asiatic; yet the ivory dealers in London affirm that the largest tusks come from Africa, and are of a better texture, and less liable to turn yellow, than the Indian ones. The increase of the tusks arises from circular layers of ivory, applied internally, from the core on which they are formed, similar to what happens in the horns of some animals.

The grinders of elephants may be considered as composed of several distinct laminæ or teeth, each covered

(D) There is little doubt that the accounts generally given of the great height of the elephant have been much exaggerated. To John Corfe Scot, Esq. F. R. S. naturalists are greatly indebted for clearing up many circumstances relating to this animal. That gentleman declares that he never saw an elephant above ten feet high, and that the highest of which he could procure any authentic account did not exceed ten feet six inches.



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vered with its proper enamel; and these teeth are merely joined to each other by an intermediate softer substance, acting as a cement. This structure, even at the first glance, must appear very curious, being composed of a number of perpendicular laminae, which may be considered as so many teeth, each covered with a strong enamel, and joined to one another by the common osseous matter: this, being much softer than the enamel, wears away faster by the mastication of the food; and in a few months after these teeth cut the gum, the enamel rises considerably higher, so that the surface of each grinder soon acquires a ribbed appearance, as if originally formed of ridges. The number of these teeth or portions, of which an elephant's grinder is composed, varies from four to 23, according as the animal advances in age; so that a grinder or case of teeth in a full grown elephant is more than sufficient to fill one side of the mouth. The shape of the grinders of the lower jaw differs from those of the upper, which are very convex on the back part; whereas the lower has a bent or curved direction, adapting itself to the shape of the jaw, and is concave on the surface. The grinders, like the tusks, are already formed, even in the very young animal. The first set of grinders, or milk teeth, begin to cut the gum eight or ten days after birth; they are not shed or cast, as the milk-tusks are, but are gradually worn away during the time the second set are coming forward. Mr Scot could not ascertain the exact time at which the second set of grinders make their appearance; but when the elephant is two years old, the second set are then completely in use. At about this period the third set begins to cut the gum; and from the end of the second to the beginning of the sixth year, the third set comes gradually forward as the jaw lengthens, not only to fill up this additional space, but also to supply the place of the second set, which are, during the same period, gradually worn away, and their fangs or roots absorbed. From the beginning of the sixth to the end of the ninth year, the fourth set of grinders comes forward, to supply the gradual waste of the third set. After this period other sets are produced, but in what time, and in what proportion, is not yet ascertained; but it is reasonable to conclude, that every succeeding grinder takes a year longer than its predecessor to be completed; and consequently, that the fifth, sixth, seventh, and eighth set of grinders will take from five to eight years (and probably much longer) each set, before the posterior lamina has cut the gum.

The time of gestation of the female elephant has been much disputed. Aristotle stated it at two years, and Buffon was at one time led to fix the same period. Afterwards, however, this naturalist was induced to consider nine months as the most likely time, and in this he was followed by Mr Pennant. We are indebted to Mr Scot for setting us right in this particular also; that gentleman having ascertained by actual experiment, that the female goes with young nearly twenty-one months.

It is now fully proved that the elephant will readily breed in captivity, and that neither male nor female shew those signs of modesty and shyness which have been attributed to them. Mr Scot has repeatedly witnessed the ceremony.

M. Buffon was led to conceive that elephants could

not copulate in the situation that is customary to other quadrupeds, but this Mr Scot has also found to be an error. The young when first born is about three feet high, and continues growing for 16 or 18 years. The female has two teats a little behind the fore legs. It was supposed by Buffon, that the young elephant suckled by means of its trunk, but later observations have shewn, that they suck in the usual way with their mouth, using the trunk for grasping the dug of the mother to press out the milk.

Mr Scot corrects another mistake, respecting the fondness of the female for her young. It was supposed that this was most exemplary, and that she would defend her young with her life; but Mr Scot relates an instance where females suffered their young to be gored to death by a male elephant, without attempting to protect or rescue them.

It has not yet been ascertained how long an elephant usually lives in its native forests. In captivity they are said to live above 100 years.

The elephant is found on the continent of Asia, in several of the Asiatic islands, especially Ceylon, and in the southern part of Africa. The Ceylonese elephants are, in general, larger than those of Africa. Captain Beaver informs us, that the little island of Bulama (on the western coast of Africa) abounds with them. He says "the number of these animals on this little island almost exceeds belief; it was nearly impossible for us to proceed fifty yards inland without meeting recent and palpable vestiges of them, and the skeletons of old ones that had died in the woods are frequently found." They often pass over the arm of the sea from the continent to this island, but what is very extraordinary, they have never been observed to return to the continent\*.

The ordinary food of the elephant consists of herbs, roots, leaves, and the tender branches of trees, which he breaks off with his trunk. As he is not a ruminating animal, he has only one stomach; but the extent of his bowels is very considerable, the colon alone being 15 or 20 feet long, and two or three in diameter. When an elephant discovers a plentiful pasture, he calls his neighbours together, to partake with him of the feast. They feed together in considerable herds, and as they require a large quantity of fodder, frequently shift their situation. They usually march in troops, the oldest keeping foremost, and the middle aged bringing up the rear. The females are placed in the centre, carrying their young firmly held in their trunks. This order they observe when they forage near the haunts of men; but when at liberty to range in extensive desert plains, they are less guarded. They often make great havock in the cultivated fields, destroying even more with the weight of their enormous feet than they consume as food. They are fond of cool sequestered places, where they may be sheltered from the mid-day sun, and love to bathe themselves with water, which they do by pouring it over their bodies with their trunks. They are said frequently to roll themselves in mud, probably like the rhinoceros, for the purpose of sheathing their skin from the attacks of insects. The elephant uses many other artifices to rid himself of these winged enemies; he strikes them with his tail, his ears, or his trunk; he contracts his skin, and crushes them between its wrinkles; he gathers boughs from the trees with his trunk, and brushes them away; and when all these

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\* Beaver's African Memoranda, p. 353.



these arts are unsuccessful, he collects dust with his trunk, and strews it over the most sensible parts of his body. He has been seen to dust himself in this manner several times a-day, especially after bathing. He swims with great ease, and in this way whole troops of them sometimes pass over rivers and narrow straits. The largest tusk elephants lead the way, and pass first. When they arrive at the opposite shore, they try whether the landing place is good, and if so, they make a signal with their trunk, and some more of the old elephants swim over, the young following with their trunks locked together, and the rest of the old ones bring up the rear.

This is nearly all we know of the manners of the elephant in the wild state. Still more interesting observations remain to be noticed respecting this animal when domesticated. We shall first give an account of the manner in which elephants are taken; and this differs according as the object is to capture single elephants, or a whole troop. Of the mode of taking elephants in Ceylon, Captain Percival has given us an interesting description in his account of Ceylon, to which we refer the reader.

The following is the method usually employed at Tiperah in the East Indies, for securing a single male elephant. As the hunters know the places whither the elephants come to feed, they advance towards them in the evening, bringing with them four *koomkees*, or female elephants trained for the purpose. In the dark nights it is easy to discover the male elephants by the noise they make in cleaning their food, by whisking it against their fore legs, and by moon light they may be distinctly seen at some distance. Having determined on the animal they wish to secure, they silently and slowly conduct three of the *koomkees* at a little distance from each other, near the place where the male is feeding. The females advance very cautiously, feeding as they approach, and appear like wild elephants that have strayed from the forest. When the male perceives them, he sometimes take the alarm, and if viciously inclined, he makes a noise, and beats the ground with his trunk, shewing evident marks of displeasure, and of his unwillingness for them to come near him. If they persist, he will immediately attack and gore them with his tusks; they therefore take care to retreat in time. He generally, however, allows them to approach, and sometimes even advances to meet them.

When the drivers find him thus gentle, they conduct two of the females close to him, one on each side, and make them press gently against his neck and shoulders; the third then comes up, and is placed directly across his tail. In this situation he is so far from suspecting any design against his liberty, that he begins to toy with the females, and caresses them with his trunk. The fourth female is now brought near, and proper assistants furnished with ropes get under his belly at the tail, and fasten a slight cord round his hind legs. If he takes no notice of this, they proceed to tie his legs with a stronger cord, passed alternately from one leg to the other, so as to form a figure of 8. Six or eight such cords are usually employed, one above another, and fastened at their intersections, by another cord made to pass perpendicularly up and down. A strong cable about 60 cubits long, with a running noose, is

next put round each hind leg, above the other cords, and over these six or eight more cords are crossed as before from one leg to the other, all which takes up about 20 minutes, a strict silence being observed all the time.

When thus properly secured, he is left to himself, the *koomkees* retiring to a little distance; in attempting to follow them, he finds his legs tied, and becoming sensible of the danger of his situation, immediately retreats towards the jungle. The drivers on the tame elephants, accompanied by a number of people who till this time had been kept out of sight, follow him at a little distance, and as soon as he passes near a tree sufficiently stout to hold him, they make a few turns of the long cables which trailed behind him round its trunk. His progress being thus stopped, he becomes furious, and exerts his utmost efforts to disengage himself. The *koomkees* dare not now come near him, and in his fury he falls down on the earth and tears it up with his tusks. In these exertions he sometimes breaks the cables, and escapes into the thick jungle: here the drivers dare not advance for fear of the other wild elephants, and are therefore obliged to leave him to his fate; and in this hampered situation, it is said, he is even ungenerously attacked by his former companions. But as the cables are strong, and very seldom give way, when he has exhausted himself by his exertions, the *koomkees* are again brought near him, and take their former positions, one on each side, and the other behind. After getting him nearer the tree, the people carry the ends of the long cables two or three times round it, so as to prevent even the possibility of his escape. His fore legs are now tied exactly in the same manner as his hind legs were, and the cables are made fast, one on each side, to trees or stakes driven deep into the earth.

When he has become more settled, and will eat a little food, with which he is supplied as soon as he is taken, the *koomkees* are again brought near, and a strong rope is put twice round his body, close to his fore legs, like a girth, and tied behind his shoulder; then the long end is carried back close to his rump, and there fastened, after a couple of turns more have been made round his body. Another cord is next fastened to this, and from thence carried under his tail like a crupper, and brought forward and fastened to each of the girths. A strong rope is now put round his buttocks, and made fast to each side of the crupper, so as to confine the motion of his thighs, and prevent his taking a full step. A couple of large cables, with running nooses, are put about his neck, there secured, and then tied to the ropes on each side. Thus completely hampered, the cables round his neck are made fast to two *koomkees*, one on each side.

Every thing being now ready, all the ropes are taken from his legs, except the strong one round his buttocks to confine the motion of his hind legs, which is still left. The *koomkees* pull him forward, sometimes, however, not without much struggling and violence on his part. When brought to his proper station, and made fast, he is treated with a mixture of severity and gentleness, and generally in a few months becomes tractable, and appears perfectly reconciled to his fate.

It



Bruta.

It has happened that an elephant which escaped from captivity, suffered itself to be taken again by the hunters. This is not the only fact, as we shall see hereafter, that contradicts the observation of Horace, that no beast once escaped from slavery, suffers himself again to be entrapped (E).

The elephant when tamed, is gentle, obedient, and tractable, patient of labour, and submits to the most toilsome drudgery. He is so attentive to the commands of his governor, that a word or look is sufficient to stimulate him to the greatest exertions. His attachment to his keeper is remarkable: he caresses him with his trunk, and frequently will obey no other master. He knows his voice, and can distinguish between the tones of command, of approbation, and of anger. He receives his orders with attention, and executes them with eagerness, but without precipitation. All his motions are grave, majestic, regular and cautious, and seem to correspond with the dignity of his appearance. He kneels down for the accommodation of those who would mount upon his back, and even helps them to ascend with his trunk. He suffers himself to be harnessed, and seems proud of the finery of his trappings; he will easily perform the work of several horses, being able to carry from 3000 to 4000 weight. His conductor or *cornac* is usually mounted on the neck of the elephant, and uses a rod of iron sharp at the end and hooked, with which he urges the animal forward, by pricking his head, ears, or muzzle, though this is seldom necessary, a word being usually sufficient.

In India, Mr Scot tells us, elephants are divided into two casts, viz. the koomareah and the merghee. The first consists of the large or full-bodied kind; the second of the more slender, with longer legs and thinner trunk in proportion; it is also a taller animal, but not so strong as the former. A large trunk is always considered as a great beauty in an elephant, so that the koomareah is preferred not only on this account, but for his superior strength in carrying burthens, &c. Many indistinct varieties are again produced from the intermixture of these two breeds. The torrid zone seems to be the natural clime of the elephant, and the most favourable for the production of the largest and hardiest race; and when this animal migrates beyond the tropics, the species degenerates.

The following marks are laid down by Mr Scot as descriptive of a perfect elephant. His ears should be large and rounded, not ragged or indented at the margin: his eyes of a dark hazel colour, free from specks: the roof of his mouth and his tongue without dark or blackish spots of any considerable size: his trunk large: his tail long, with a tuft of hair reaching nearly to the ground. There must be five nails on each of his fore feet, and four on each of his hind ones; his head well set on, and carried rather high; the arch or curve of his back rising gradually from the shoulder to the middle, and thence descending to the insertion of the tail; and all his joints firm and strong.

The value of an elephant varies much, according to

his cast, and as he has more or less of the above marks. The usual price at Ceylon is 50 guineas, but they sometimes fetch considerably more. History of the Species.

Elephants are kept by the princes and grandes of India, chiefly for show and magnificence. In their travels the Indian princes are attended by hundreds of these animals. Some are employed to carry the ladies which compose the *seraglio*, who are placed in latticed cages covered with branches of trees; while others transport the immense quantities of baggage which the sovereigns of the east usually carry with them in their journeys. Great care is taken in the management and decoration of these elephants. They are daily fed, bathed, oiled, and rubbed, and frequently painted about the ears and head with various colours, and their tusks surrounded with rings of gold and silver. When employed in processions, they are covered with the most gaudy and sumptuous trappings.

Elephants are now seldom employed in war, as in the present state of warfare they can be of little advantage. The ancients, as is well known, used numbers of them in their armies, and we are told that Porus opposed the passage of Alexander over the Hydaspes with 85 elephants. The accounts related of those brought by Pyrrhus against the Romans, are familiar to most of our readers, and Buffon supposes that some of these were among the number that Alexander took and sent into Greece. In the later periods of the Roman republic, elephants were frequently exhibited to the people, for the cruel purpose of being put to death in conflicts with armed men. It is said that Pompey, in the space of five days, destroyed 18 elephants in this way, with a view of entertaining the populace, among whom the cries of the elephants are said to have excited much commiseration.

In the east, elephants are sometimes employed as the executioners of public justice, and they will trample a criminal to death, break his limbs with their trunk, or impale him on their enormous tusks, according to the orders given them. In some parts of India they were formerly employed in launching ships, which they effected by pushing the vessel with their heads. We are told that one of them being directed to force a large vessel into the water, and this proving too much for his strength, the master in an angry tone cried out, 'Take away that lazy beast, and bring another in his place. The poor animal repeated his efforts, fractured his skull, and died upon the spot.

A great many instances have been recorded of the sagacity, and almost reasoning power of this wonderful animal. We shall mention a few of these. "I was, says M. Philippe, an eye witness to the following facts:—At Goa, there are always some elephants employed in the building of ships. I one day went to the side of the river, near which a great ship was building, where there is a large area filled with beams for that purpose. Some men tie the ends of the heaviest beams with a rope, which is handed to an elephant, who carries it to his mouth, and after twisting it round his trunk,

(E) ————— Quæ bellua ruptis,  
Cum semel effugit, reddit se prava catenis.



History of  
the Species.

trunk, draws it, without any conductor, to the place where the ship is building, though it may have been only once pointed out to him. One of these sometimes drew beams so large, that more than 20 men would have been unable to move them. But what surprised me still more, when other beams obstructed the road, he elevated the ends of his own beams that they might run easily over those which lay in his way. Could the most enlightened man do more?"

He well knows when he is mocked, or otherwise ill treated. The story of the taylors of Delhi, who were drenched with puddle water by an elephant for having pricked his trunk with a needle, is well known. The following instance of retaliation is not less worthy of notice. An elephant driver at Macafa having a cocoa nut given him, he, out of wantonness struck it twice against his elephant's head, to break it. The next day when the animal was passing through the street, he saw some cocoa nuts exposed to sale, and taking up one of them with his trunk, he beat it about the driver's head till he completely killed the man. This comes, says the relater, of jesting with an elephant.

When much provoked, he has been known to take the most dreadful vengeance. He is extremely fond of wine and spirits, and by shewing him a vessel of arack, he is induced to use the greatest efforts, and take the utmost pains in hopes of gaining it as the reward of his labour. An elephant disappointed of his reward in this way, out of revenge killed his cornac or governor. The poor man's wife, who beheld the dreadful scene, took her two infants, and threw them at the feet of the enraged animal, saying, "since you have slain my husband, take my life also, as well as that of my children." The elephant instantly stopped, relented, and as if stung with remorse, took the eldest boy in his trunk, placed him on his neck, adopted him for his cornac, and would never allow any other person to mount it.

The elephant is sometimes seized with periodical fits of rage, and during these he will destroy the first person he meets with; but what is very remarkable, when he has sacrificed one victim, he becomes instantly appeased, and may be then led and governed as usual.

The following instance of mutual affection between a male and female elephant, who had before been much together, and were brought to Paris in separate conveyances, is very interesting.

The place for their reception had been long prepared. It was a spacious hall in the museum of natural history, well aired and lighted. A stove was placed in it to warm it during the winter; and it was divided into two apartments, which had a communication with each other by means of a large door resembling a portcullis. The inclosure round these apartments, consisted of rails made of strong thick beams, and a second inclosure, breast-high, ran round them, to keep the spectators at some distance, and preserve them from accidents.

The morning after their arrival, these animals were put in possession of their new habitation. The first conducted to it was the male, who issued from his cage with precaution, and seemed to enter his apartment with a degree of suspicion. His first care was to reconnoitre the place. He examined each bar with his trunk, and tried their solidity by shaking them. Care had been taken to place on the outside the large screws

by which they were held together. These he sought out, and, having found them, tried to turn them, but was not able. When he arrived at the portcullis which separates the two apartments, he observed that it was fixed only by an iron bar, which rose in a perpendicular direction. He raised it with his trunk, pushed up the door, and entered into the second apartment, where he received his breakfast. He ate it quietly, and appeared to be perfectly easy.

During this time people were endeavouring to make the female enter. We still recollect the mutual attachment of these two animals, and with what difficulty they were parted and induced to travel separately. From the time of their departure they had not seen each other, not even at Cambay, where they passed the winter. They had only been sensible that they were near neighbours. The male never lay down, but always stood upright or leaned against the bars of his cage, and kept watch for his female, who lay down and slept every night. On the least noise, or the smallest alarm, he sent forth a cry to give notice to his companion.

The joy which they expressed on seeing each other, after so long a separation, may be readily imagined. When the female entered, she sent forth a cry expressive only of the pleasure which she felt at finding herself at liberty. She did not at first observe the male, who was busy feeding in the second apartment. The latter did not immediately discover that his companion was so near him; but the keeper having called him, he turned round, and immediately the two animals rushed towards each other, and sent forth cries of joy, so animated and loud, that they shook the whole hall. They breathed also through their trunks with such violence, that the blast resembled an impetuous gust of wind. The joy of the female was the most lively: She expressed it by quickly flapping her ears, which she made to move with astonishing velocity, and drew her trunk over the body of the male with the utmost tenderness. She, in particular, applied it to his ear, where she kept it a long time; and after having drawn it over the whole body of the male, would often move it affectionately towards her own mouth. The male did the same thing over the body of the female; but his joy was more concentrated: He seemed to express it by his tears, which fell from his eyes in abundance.

Besides the use made of the elephant, when living, he is sometimes hunted for the sake of his tusks and flesh. Mr Bruce has given us an interesting account of the mode of hunting elephants in Abyssinia, and with this we shall conclude our history of this animal.

The men who make the hunting of elephants their business, dwell constantly in the woods, and live entirely upon the flesh of the animals they kill, which is chiefly that of the elephant or rhinoceros. They are exceedingly thin, light, and agile, both on horseback and on foot. They are called *agageer*, a name derived from the word *agar*, which signifies to hamstring with a sharp weapon. More properly it means, indeed, the cutting of the tendon of the heel, and is a characteristic of the manner in which they kill the elephant, which is thus:—Two men, quite naked, to prevent their being laid hold of by the trees or bushes in making their escape from this very watchful enemy, get on horseback. One of these riders sits on the back of the horse, some-

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times



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times with a fiddle, and sometimes without one, with only a short stick in one hand, carefully managing the bridle with the other: behind him sits his companion, armed only with a broad sword. His left hand is employed in grasping the sword by the handle; about 14 inches of the blade of which are covered with whip cord. This part he takes in his right hand, without any danger of being hurt by it; and though the edges of the lower part of the sword are as sharp as a razor, he carries it without a scabbard.

“As soon as an elephant is found feeding, the horseman rides before him, as near his face as possible; or if he flies, crosses him in all directions, calling out, ‘I am such a man and such a man, this is my horse, that has such a name; I killed your father in such a place, and I am now come to kill you; you are but an ass in comparison with them.’ This nonsense he believes the elephant perfectly understands, who, chafed and angry at hearing the noise immediately before him, attempts to seize him with his trunk; and, intent upon this, follows the horse everywhere, turning round and round with him, neglectful of making his escape by running straight forward, in which consists his only safety. After having made him turn a few times in pursuit of the horse, the horseman rides up alongside of him, and drops his companion just behind on the off-side; and while he engages the elephant’s attention upon the horse, the footman behind gives him a drawn stroke just above the heel, into what in man is called the *tendon of Achilles*. This is the critical moment; the horseman immediately wheels round, again takes his companion up behind him, and rides off after the rest of the herd, if they have started more than one; and sometimes an expert agageer will kill three out of one herd. If the sword is good, and the man not afraid, the tendon is commonly entirely separated; and if it is not cut through, is generally so far divided, that the animal, with the stress he puts upon it, breaks the remaining part asunder. In either case, he remains incapable of advancing a step, till the horseman returning, or his companions coming up, pierce him through with javelins and lances; he then falls to the ground, and expires from loss of blood.

“The elephant once slain, they cut the whole flesh off his bones into thongs, like the reins of a bridle, and hang these, like festoons, upon the branches of trees, till they become perfectly dry, without salt, and they then lay them by for their provision in the season of the rains”\*.

\* Bruce’s Travels.

Bosman and Labat give us terrible ideas of the courage of the elephant, and his fury when wounded; but either their accounts are much exaggerated, or the modern elephant is a much more timid animal than that of their time. Captain Beaver assures us, that when an elephant is attacked, it will endeavour to escape by any opening it can perceive; that whenever they fired at it on shore, it never turned on its enemies, but made for the openings that led into the woods. The Bijugas and Biaforas use a very long gun, loaded with a piece of an iron rod nearly equal to its caliber, for attacking the elephant, and always aim at the flank, or behind the ear, these being the most dangerous parts in which the animal can be wounded. The elephant is scarcely ever killed by a single shot †.

† Beaver’s African Memoranda, p. 350.

For many years past a number of large bones and

extraordinary teeth, have been discovered in the northern parts both of Asia and America, which at first were generally attributed to the elephant, though in Siberia they were considered as belonging to a monstrous animal called *mammoth*, whose fabulous existence they supposed to be under ground. In North America these large bones and carnivorous grinders have been found in great abundance on the Ohio and its tributary streams, washed from their banks, or discovered by digging in salt morasses in the neighbourhood of Cincinnati, where they are found intermixed with the bones of buffaloes and deer, which a tradition of the Indians states to have been destroyed by a herd of these animals which came upon them from the north. This event happened, the Indians believe, as a punishment for their sins; but they say that the good spirit at length interposed to save them, and seating himself on a neighbouring rock, where they shew you the print of his feet and of one foot, hurled his thunderbolts against them. All were killed except one male, who, presenting his forehead to the shafts, shook them off, until at length wounded, he sprang over the Wabath, the Illinois, and the Great Lake, where he still lives.

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Mammoth.

These bones were forwarded with eagerness to all parts of Europe, and deposited in museums, where they attracted the curiosity of all naturalists, whose conjectures and theories on them were very various, until Dr Hunter, by a more accurate comparison between them and the bones of other animals, determined that they must have belonged to a large non-descript animal of the carnivorous kind, somewhat resembling the hippopotamus and the elephant, yet essentially different from both.

The subject is now completely elucidated. Not long since some farmers in the state of New York, in America, digging marl from their morasses in the neighbourhood of New Windsor, accidentally discovered several of these bones, which were preserved by physicians in the neighbourhood. In the autumn of 1801, Mr Charles Peale, and his son Mr Rembrandt Peale, having obtained possession of those bones, persevered for near three months, with much labour and expence, in searching for the remainder of this animal, and were at length so fortunate as to obtain two skeletons found in two distinct situations, and unmixed with the bones of any other individual. One of these is preserved in the museum at Philadelphia, and the other was exhibited a few years ago in London, previously to its being taken to Paris.

The length of this skeleton, from the chin to the rump, was 15 feet, and its height over the shoulders 11 feet; and from the point of the tusks to the end of the tail, in a straight line, it was 17 feet long. The whole skeleton weighed about 1000lb.

The following differences between the skull of the mammoth, and that of the elephant, are given by Mr R. Peale.

On examining the head of the elephant, it will appear, that the sockets for the tusks are situated, with respect to the condyle of the neck, nearly in an angle of 45°, so that the tusks, which have but little curve, are directed downwards and forwards, and may be with ease employed offensively and defensively. On the other hand it will be observed, that, in the mammoth, the socket is nearly in a horizontal line with the con-



dyle; and therefore the tusks, which are semicircular, could never have been elevated in the air, pointing backwards, but must have had their points thrown out by the spiral twist on each side.

In the elephant, the orbit of the eye is situated where, in the mammoth, there is a large mass of bone. The cheek of the elephant is formed of two bones; but in the mammoth, besides other variations, there is but one bone. The whole figure of the under jaw differs considerably, in the length of the condyles or arms, which in the mammoth is short and angular, but in the elephant forms a semicircular line\*.

\* *Philosoph. Mag.* xiv.

Mr R. Peale seems to have no doubt that the mammoth was a carnivorous animal, feeding chiefly on shell fish; but if the animal, whose stomach was lately found in digging a well near a salt lake in Wythe county, Virginia, were really a mammoth, it is clear that this animal was at least capable of living on herbage. The contents of this stomach, which were in a state of perfect preservation, consisted of half masticated reeds, twigs, and grass or leaves †.

† *Nichol. Journ.* Svo. vol. xiii. p. 358.

#### Genus 11. SUKOTYRO.

53  
Sukotyros.  
Fig. 18.

Of this genus there is only one species, of which we know little or nothing, and are not even certain that it exists: the little information that has been given of it being confined to a single traveller, Nieuhoff. He describes it as a quadruped of a very singular shape, about the size of a large ox, with a snout like that of a hog, long and rough ears, and a thick and bushy tail. He says that the eyes are placed upright in the head, and that on each side of the head, next to the eyes, stand two horns or rather tusks, not quite so large as these of the elephant, that it feeds on herbage, and is a native of Java.

#### Genus 12. PLATYPUS.

54  
Platypus.  
Fig. 19.

Mouth shaped like the bill of a duck, with two grinders on each side in each jaw; feet webbed.

There is only one species, which has been called *P. Anatinus*, or Duck-billed Platypus. It was brought from New Holland, and presented to Sir Joseph Banks. An account of it was first published by Dr Shaw in the *Naturalists Miscellany*, and afterwards in the *General Zoology* of the same author, from which the following account is taken.

"Of all the mammalia yet known, this seems the most extraordinary in its conformation, exhibiting the perfect resemblance of the beak of a duck engrafted on the head of a quadruped. So accurate is the similitude, that, at first view, it naturally excites the idea of some deceptive preparation by artificial means; the very epidermis, proportion, serratures, manner of opening, and other particulars of the beak of a shoveler, or other broad-billed species of duck, presenting themselves to the view; nor is it without the most minute and rigid examination that we can persuade ourselves of its being the real beak or snout of a quadruped.

"The body is depressed, and has some resemblance to that of an otter in miniature. It is covered with a very thick, soft, and beaver-like fur, and is of a moderately dark brown above, and of a subferruginous white beneath. The head is flattish, and rather small than large. The mouth or snout, as before observed, fo ex-

actly resembles that of some broad-billed species of duck, that it might be mistaken for such. Round the base is a flat circular membrane, somewhat deeper or wider below than above, viz. below, near the fifth of an inch, and above, about an eighth. The tail is flat, furry like the body, rather short, and obtuse, with an almost bifid termination; it is broader at the base, and gradually lessens to the tip, and is about three inches in length; its colour is similar to that of the body. The length of the whole animal, from the tip of the beak to that of the tail, is 13 inches; of the beak an inch and a half. The legs are very short, terminating in a broad web, which on the fore feet extends to a considerable distance beyond the claws; but on the hind feet reaches no farther than the roots of the claws. On the fore feet are five claws, straight, strong, and sharp-pointed; the two exterior ones somewhat shorter than the three middle ones. On the hind feet are six claws, longer and more inclining to a curved form than those on the fore feet; the exterior toe and claw are considerably shorter than the four middle ones: the interior, or sixth, is seated much higher up than the rest, and resembles a strong sharp spur. All the legs are hairy above: the fore feet are naked, both above and below. The internal edges of the under mandible (which is narrower than the upper) are serrated or channelled with numerous striæ, as in a duck's bill. The nostrils are small and round, and are situated about a quarter of an inch from the tip of the bill, and are about one-eighth of an inch distant from each other. There is no appearance of teeth: the palate is removed; but it seems to have resembled that of a duck: the tongue also is wanting in the specimen here described. The ears or auditory orifices, are placed about an inch beyond the eyes; they appear like a pair of oval holes of the eighth of an inch in diameter, there being no external ear. On the upper part of the head, on each side, a little beyond the beak, are situated two smallish oval white spots, in the lower part of each of which are imbedded the eyes, or at least the parts allotted to the animal for some kind of vision; for, from the thickness of the fur, and the smallness of the organs, they seem to have been but obscurely calculated for distinct vision, and are probably like those of moles, and some other animals of that tribe; or perhaps even subcutaneous, the whole apparent diameter of the cavity in which they are placed not exceeding the tenth of an inch.

"When we consider the general form of this animal, and particularly its bill and webbed feet, we shall readily perceive, that it must be a resident in watery situations; that it has the habits of digging or burrowing in the banks of rivers, or under ground, and that its food consists of aquatic plants and animals. This is all that can at present be reasonably guessed at; future observations, made in its native regions, will, it is hoped, afford us ample information, and will make us fully acquainted with the natural history of an animal which differs so widely from all other quadrupeds, and which verifies in a most striking manner the observation of Buffon, viz. that whatever was possible for nature to produce, has actually been produced" \*.

This animal was first called *Ornithorhynchus Paradoxa*, and it has been described under this name by Blumenbach of Gottingen, and by Mr Home of London. See *Phil. Trans.* for 1800.

\* *Shaw's Zoology*, vol. i.



Bruta.

Mr Home found on dissection, that the beak of the platypus differs materially from the bill of a bird; that it was independent of the cavity of the mouth, which was similar to that of other quadrupeds, having two grinders on each side in both jaws, but without fangs.

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bers under them with the intention of oversetting them, at the same time shewing all the marks of rage, by roaring in a dreadful manner, and gnashing their teeth with great violence. They are strongly attached to each other, and will make every effort in their power, even to death, to set at liberty their harpooned companions. A wounded walrus has been known to sink to the bottom, rise suddenly again, and bring up with it multitudes of others, who have united in an attack on the boat from which the insult came.

55  
Trichecus.

## Genus 13. TRICHECUS. WALRUSSES.

No fore teeth in the full-grown animal in either jaw. Tusks in the upper jaw solitary; grinders with wrinkled surfaces. Lips double. Hind feet uniting at the extremity of the body into a fin.

This genus constitutes one of the links that connect the quadrupeds with the fishes; the walrusses and manati being marine animals, who, though they sometimes come on shore, pass most of their time in the water. They feed on sea weeds and shell fish, and do not appear to be carnivorous. There are about seven species, which are distinguished by the following names and characters.

1. *T. Rosmarus*, Morse or Arctic Walrus. Tusks distant and exerted.—2. *T. Dugon*, Dugon or Indian W. Tusks exerted and approximate.—3. *T. Borealis*, Whale-tailed W. Hairless, with a horizontal tail in place of hind feet.—4. *T. Australis*, Round-tailed W. Hairy, with a horizontal tail in place of feet.—5. *T. Manatis*, Guiana W. Slightly hairy, without tusks, and with a horizontal tail in place of hind feet. The following are named, but not characterized, by Dr Shaw, viz. 6. *T. Amazonius*, and 7. *T. Hydropithecus*.

56  
*Rosmarus*,  
Arctic Walrus.  
Fig. 20.

1. *T. Rosmarus*, Arctic Walrus.—This is a very large animal, growing sometimes to the length of 18 feet, and so thick as to measure 12 feet about the middle of the body. Its form is clumsy and inelegant, having a small head, short neck, thick body, and short legs. The lips are very thick, and the upper lip is indented or cleft into two large rounded lobes: over the whole surface of this part are scattered numerous semitransparent bristles, of a yellowish tinge, and of such a thickness as almost to equal a straw in diameter; they are about three inches long, and are slightly pointed at their extremities. The eyes are small. Instead of external ears, there are only two small round orifices. The skin, on the whole, is thick, and more or less wrinkled, and is scattered over with short brownish hair. On each foot are five toes, all connected by webs, and on each toe is a small nail; the hind feet are considerably broader than the fore feet. The tail is extremely short. In the upper jaw are two large and long tusks bending downwards.

The arctic walrus inhabits the northern seas, and is chiefly found within the arctic circle. Great numbers are often met with in the Magdalen isles in the gulf of St Lawrence. They are gregarious, and are sometimes seen in vast multitudes on the masses of floating ice that are found in those high latitudes. They are harmless, unless when attacked or provoked, in which case they become furious, and extremely vindictive. When surprised on the ice, the females first provide for the safety of their young, by flinging them into the sea, and themselves after them. Having carried these to a secure distance, they will return to the place again with great rage to revenge any injury they have received. They will sometimes attempt to fasten their teeth on the boats, in order to sink them, or rise in great num-

The following picture of a herd of walrusses on a mass of floating ice, is given by Captain Cook. "They lie in herds of many hundreds upon the ice, huddling over one another like swine, and roar or bray very loud, so that in the night, or in foggy weather, they gave us notice of the vicinity of the ice, before we could see it. We never found the whole herd asleep, some being always upon the watch. These, on the approach of the boat, would wake those next to them; and the alarm being thus gradually communicated, the whole herd would be awake presently. But they were seldom in a hurry to get away, till after they had been once fired at. They then would tumble over one another into the sea in the utmost confusion. And if we did not, at the first discharge, kill those we fired at, we generally lost them, though mortally wounded. They did not appear to us to be that dangerous animal which some authors have described, not even when attacked. They are rather more so in appearance than in reality. Vast numbers of them would follow and come close up to the boats. But the flash of a musket in the pan, or even the bare pointing of one at them, would send them down in an instant. The female will defend the young to the very last, and at the expence of her own life, whether in the water or upon the ice. Nor will the young one quit the dam, though she be dead; so that if one is killed, the other is certain prey. The dam, when in the water, holds the young one between her fore fins."

The tusks of this animal are used as ivory; but authors seem to differ with respect to its quality, some taking it as superior, and others far inferior to that of the elephant. The walrus is taken chiefly for the sake of its oil and its skin, from which latter is prepared a very strong and elastic leather.

This order contains nine genera, and about 30 species.

## CHAP. III. FERÆ.

## Genus 14. PHOCA. SEALS.

57  
Phoca.

Six fore teeth in the upper jaw, pointed, parallel, outer the larger; four in the lower jaw, bluntish, parallel, equal and distinct. One canine tooth on each side in both jaws, large and pointed; the upper distinct from the cutting teeth; the lower from the grinders. Five grinders on each side in the upper, and six in the lower jaw; obtusely tricuspidated. Hind feet growing together.

This constitutes another tribe of marine animals; but these are much better fitted for living on land than the walrusses, and indeed they pass much of their time either on the sea shores, on insulated rocks, or on the ice in the frozen seas, assembling in these places in vast numbers, especially at the time when the females bring forth



forth their young. Here they lie basking in the sun or sporting with each other, and here they take their repose. They are found in all seas, and some of them are said to inhabit large inland lakes. They feed chiefly on fish and sea weeds.

The species are numerous, at least 19 being described by naturalists, viz.

1. \* *P. Vitulina*, Common Seal. Earless, brown, with smooth head and neck.—2. *Bicolor*, Pied S. Earless, black, variegated with white, with elongated nose and lunated hind feet.—3. *P. Monachus*, Mediterranean S. Earless, with four cutting teeth in each jaw, undivided fore feet, and the hinder pinniform and without claws.—4. *P. Longicollis*, Long-necked S. Earless, long-necked, with the fore feet pinniform.—5. *P. Falklandica*, Falkland-isle S. Cinereous, with small-pointed ears, and furrowed cutting teeth.—6. \* *Testudinea*, Tortoise-headed S. Tortoise-shaped head and slender neck.—7. *P. Fasciata*, Ribbon S. Blackish, with a squarish dorsal yellow band.—8. *P. Leporina*, Leporine S. with white, soft, suberect fur.—9. \* *P. Barbatata*, Great S. Earless, blackish, with smooth head.—10. *P. Hyphida*, Rough S. Pale brown, subauriculated, with smooth head, and the body covered with rising bristly hair.—11. *P. Porcina*, Porcine S. Eared, with hog like snout and five-toed feet.—12. *P. Flavescens*, Yellow S. Yellowish, with pointed ears.—13. *P. Cristata*, Hooded S. Gray, with a folding skinny crest on the forehead.—14. *P. Groenlandica*, Harp S. Earless, gray, with a black dorsal crescent; the horns pointing downwards along the sides.—15. *P. Puffilla*, Little S. Subauriculated, dusky, with smooth head.—16. *P. Ursina*, Ursine S. Eared, blackish, with flattish nose, and fin-like fore feet.—17. *P. Leonina*, Bottle-nosed S. Brown, male having a projecting crest or inflated membrane on the snout.—18. *P. Jubata*, Leonine S. Reddish brown, male furnished with a large mane round the neck.—19. *P. Lupiora*, Urigne S. Earless, with dog-like head, and fin-like fore feet.

1. *P. Vitulina*, Common Seal, or Sea Calf.—The usual length of this species is from five to six feet. It has a large round head, a small short neck, and several strong bristles on each side of its mouth; large eyes, no external ears, and a forked tongue. The body tapers from the shoulders to the tail. The legs are very short, and the feet all webbed. The hind legs are placed so far back as to be of but little use, except in swimming. The tail is very short. They vary in colour, being sometimes gray, sometimes brown or blackish, and now and then spotted with white and yellow. They inhabit all the European seas, and are found round all the coasts of the northern hemisphere. They are also seen in vast quantities about the southern polar regions; and Mr Pennant informs us, that they even inhabit some fresh-water lakes, especially that of Baikal. Their dens or habitations are formed in hollow rocks or caverns out of the reach of the tide.

They are excellent swimmers, and ready divers, and are very bold when in the sea. In the summer they will come out of the water, to bask or sleep in the sun, on the top of large stones, or shivers of rocks; and that is the opportunity our countrymen take of shooting them: if they chance to escape, they hasten towards

their proper element, flinging stones and dirt behind them as they scramble along; at the same time expressing their fears by piteous moans; but if they happen to be overtaken, they will make a vigorous defence with their feet and teeth, till they are killed. They are taken for the sake of their skins, and for the oil their fat yields; the former sell for 4s. or 4s. 6d. a piece, and, when dressed, are very useful in covering trunks, making waistcoats, shot pouches, and several other conveniences. The flesh of these animals, and even of porpoises, formerly found a place at the tables of the great, as appears from the bill of fare of that vast feast that Archbishop Nevill gave in the reign of Edward IV. in which is seen, that several seals were provided on the occasion. They couple about April, on large rocks, or small islands, not remote from the shore; and bring forth in those vast caverns that are frequent on our coasts. They commonly bring forth two at a time, which, in their infant state, are covered with a whitish down, or woolly substance.

They suckle their young for about a fortnight, in the place where they were born, and then take them out to sea, and instruct them in swimming, and seeking for their prey, which consists chiefly of sea weed. When the young are fatigued, the parents are said to carry them on their backs. The growth of the young seals is said to be so rapid, that, in about nine tides after their birth, they become as active as their parents.

Seals are very swift in their proper depth of water, dive like a shot, and in a trice rise at 50 yards distance; so that weaker fishes cannot avoid their tyranny, except in shallow water; a person of the parish of *Sennon*, saw, not long since, a seal in pursuit of a mullet (that strong and swift fish): the seal turned it to and fro in deep water, as a greyhound does a hare. The mullet at last found it had no way to escape, but by running into shoal water: the seal pursued, and the mullet, to get more securely out of danger, threw itself on its side, by which means it darted into shoaler water than it could have swam in with the depth of its haunch and fins, and so escaped.

They sleep on rocks surrounded by the sea, or on the less accessible parts of our cliffs, left dry by the ebb of the tide; and if disturbed by any thing, take care to tumble over the rocks into the sea. They are extremely watchful, and never sleep long without moving; seldom longer than a minute, then raise their heads, and if they hear or see nothing more than ordinary, lie down again, and so on, raising their heads a little, and reclining them alternately, in about a minute's time. Nature seems to have given them this precaution, as being unprovided with auricles, or external ears; and consequently not hearing very quick, nor from any great distance.

When taken young, these animals may be domesticated, will follow their master like a dog, and come to him when called by name. Some years ago a young seal was thus domesticated that had been taken at a little distance from the sea. It was usually kept in a vessel full of salt water, but was allowed to crawl about the house, and would sometimes come near the fire; its natural food was regularly brought to it, and it was every day taken to the sea, and thrown in from a boat, but would swim after the boat, and always allowed it-

self.

58  
*Vitulina*,  
Common  
Seal.

Fig. 21.



Feræ. *Canis.* self to be taken back. It lived in this way for several weeks, and appears to have died in consequence of ill usage.

59  
*Canis.*

## Gen. 15. CANIS. Dogs.

Six cutting teeth in each jaw; the lateral of the upper jaw longer and distant, the intermediate lobated; the lateral of the lower jaw lobated. Canine teeth solitary and curved. Grinders six or seven, or more than in the other genera of this order.

The individuals of this genus, like those of the next, have so little in common with respect to their habits and manners, and are otherwise so important in themselves, as to call for a separate account. Without making any general remarks here, we shall merely give the specific differences, and then proceed to such of the species as are most worthy of notice.

There are about 23 species; viz.

1. \* *Canis Familiaris*, Common Dog. Recurved tail, turned towards the left.—2. *C. Lupus*, Wolf. Tail incurvated.—3. *C. Mexicanus*, Mexican wolf. Tail deflected; body ash-coloured, and variegated with dusky bands and fulvous spots.—4. *C. Lycaon*, Black wolf. Tail straight.—5. *C. Hyæna*, Hyæna. Pale brown, striped with black, with upright mane, naked ears, straight tail and four-toed feet. 6. *C. Crocata*, Spotted hyæna. Reddish brown, spotted with black; with straight tail, and four-toed feet.—7. *C. Aureus*. Jackall. Pale fulvous, with straight tail.—8. *C. Mesomelos*, Cape jackall. Ferruginous, with straight tail, and black dorsal band.—9. *C. Barbarus*, Barbary jackall. Pale brown with straight tail; a black descending forked band behind each ear, and three dusky bands on the tail.—10. *C. Ceylonicus*, Ceylonese dog. Yellowish gray, with lengthened snout, long sharp pointed tail, and crooked claws.—11. \* *C. Vulpes*, Fox. Tail straight tipped with white.—12. *C. Alopex*, Brant fox. Tail straight, tipped with black.—13. *C. Corfac*, Corfac fox. Tail straight, fulvous, with the base and tip white.—14. *C. Karagan*, Karagan fox. Tail straight; body gray, and ears black.—15. *C. Cinereo-argenteus*, Fulvous-necked fox. Ash gray, with straight tail; and the sides of the neck fulvous.—16. *C. Virginianus*, Virginian fox. Whitish gray, with straight tail.—17. *C. Argentatus*, Silvery fox. Deep brown, with longer hairs of a silvery white. 18. *C. Lagopus*, Arctic fox. Tail straight, feet covered with thick fur.—19. *C. Thous*, Surinam dog. Grayish, white beneath, with deflected tail.—20. *C. Bengalensis*, Bengal fox. Light brown, with a longitudinal black stripe down the face, white orbits, fulvous legs, and tail tipped with black.—21. *C. Fuliginosus*, Sooty fox. Of a sooty colour, with straight tail.—22. *C. Antarcticus*, Antarctic fox. Cinereous brown, villous; tail tipped with white.—23. *C. Zerda*, Fennec. Whitish, with straight tail, and very large upright ears, that are internally of a rose colour.

60  
Domestic  
Dog.

1. *C. Familiaris*. Domestic dog.—The varieties of the common dog are so numerous, that it is scarcely possible to give any general description of the species that would apply to all. We shall here, therefore, only give Linnæus's characteristic picture, as modified by Mr Daniel, and then enumerate the several varieties with

Linnæus's characters, marking with a star those that are generally found in this country. History of the Species.

The dog eats flesh and farinaceous vegetables, but not greens (*this is a mistake, for they will eat greens when boiled*); its stomach digests bones; it uses the tops of grass as a vomit; is fond of rolling in carrion; voids its excrements on a stone; its dung (*the album græcum*) is one of the greatest encouragers of putrefaction; it laps up its drink with its tongue; makes water sideways, by lifting up one of its hind legs; is most diuretic in the company of a strange dog, and very apt to repeat it where another dog has done the same: *Odorat anum alterius; menstruans catulit cum variis; mordet illa illos; cohæret copula junctus*. Its scent is most exquisite when its nose is moist; it treads lightly on its toes, scarcely ever sweats, but when hot lolls out its tongue; generally walks frequently round the place it intends to lie down on; its sense of hearing is very quick; when asleep, it dreams. It goes with young 63 days, and commonly brings from four to ten; the male puppies resemble the dog, the female the bitch (*an assertion by no means accurate, any more than the tail always bending to the left, is a common character of the species*). It is the most faithful of animals, is very docile, fawns at its master's approach; runs before him on a journey; often passes over the same ground; on coming to cross ways stops, and looks back; drives cattle home from the field; keeps herds and flocks within bounds, protects them from wild beasts; points out to the sportsman the game, brings the birds that are shot to its master; will turn a spit; at Brussels, and in Holland, draws little carts to the herb market; in more northern regions, draws sledges with provisions, travellers, &c.; will find out what is dropt; watchful by night, and when the charge of a house or garden is at such times committed to him, his boldness increases, and he sometimes becomes perfectly ferocious; when he has been guilty of a theft, flinks away with his tail between his legs; eats voraciously with oblique eyes; enemy to beggars; attacks strangers without provocation; hates strange dogs; howls at certain notes in music, and often urinates on hearing them; will snap at a stone thrown at it; is sick at the approach of bad weather (*a remark vague and uncertain*); is afflicted with worms; spreads its madness; grows blind with age; *sæpe gonorrhœa infectus*; driven as unclean from the houses of the Mahometans; yet the same people establish hospitals for, and allow them daily food.

- 61  
Varieties.
1. \* *Shepherd's dog*; ears erect; tail woolly underneath.
  2. *Wolf-dog*; hair on the head long, ears erect, tail very much curved on the rump.
  3. *Siberian dog*; ears erect, hair all long.
  4. *Iceland dog*; ears erect, tips pendulous, hair long, except on the snout.
  5. *Water-dog*; hair long, curled like a sheep.
  6. \* *Little water-dog*; legs; hair long, curled, round; the ears long, and hanging down.
  7. *King Charles's dog*; head less, rounded; snout short, tail curved back.
  8. \* *Spaniel*; ears long, woolly, pendulous.
  9. *Maltese dog*; hair soft, silky, very long.
  10. *Lion dog*; very small; hair on the belly and tail shorter.

11. *Danish*.



History of  
the Species.

11. *Danish dog*; ears small, subpendulous; snout small, acute; legs slender.
12. *Bastard pug-dog*; ears small, subpendulous; nose thick, flattish.
13. \* *Pug-dog*; nose crooked upwards; ears pendulous; body square.
14. \* *Bull-dog*; sides of the lips pendulous; body robust; size of a wolf.
15. \* *Mastiff*; very large; sides of the lips pendulous; body robust.
16. *German hound*; ears pendulous; a spurious claw on the hind feet.
17. \* *Hound*; ears pendulous; a spurious claw on the hind feet; whitish.
18. \* *Bloodhound*; very sagacious.
19. \* *Pointer*; tail truncate; spotted.
20. *Barbet*; tail truncate; hair long, coarse.
21. \* *Greyhound*; head long; snout robust; ears small, subpendulous; legs long, stout; body long, slender.
22. *Irish greyhound*; body curved; snout narrowing; size of 15.
23. *Turkish greyhound*; body curved; snout tapering; hair a little curled; size of 25.
24. *Common greyhound*; body curved; snout tapering; size of a wolf.
25. *Rough greyhound*; body curved; snout tapering; hair longer, curled; size of a wolf.
26. *Italian greyhound*; legs; body curved; snout tapering.
27. *Naked dog*; body naked.
28. *Oriental dog*; tall, slender; ears pendulous; hair on the tail very long, hanging down.
29. \* *Lurcher*; body narrow; legs stout; tail strong, straight; hair short, thick set.
30. *Rough lurcher*; body narrow; legs stout; tail thick, straight; hair long, rough.
31. *Boar lurcher*; head and snout thick; body narrow behind; feet long; hair long, rough.
32. \* *Turnspit*; legs short; body long, often spotted.
33. *Aleo*; head small; ears pendulous; back curved; tail short; size of 9.
34. *New Holland dog*; tail bushy, pendulous; ears short, erect; snout pointed.

Of these, the *shepherd's dog*, the *Siberian dog*, the *bull dog*, the *mastiff*, the *hound*, the *bloodhound*, the *greyhound*, the *Irish greyhound*, and the *terrier*, are the most deserving of our attention. We shall make a very few remarks on each, and shall take occasion to intersperse a few anecdotes characteristic of the sagacity, cunning, strength, or courage, of this most valuable species.

The *Shepherd's dog* is supposed by many to be the original stock whence most of the other varieties are derived. This is one of the most useful of the species, and is ever faithful to his charge. This sagacious animal is of the greatest importance in those large tracts of land which in many parts of our island are appropriated to the feeding of sheep and cattle, and where vast flocks may be seen ranging without controul, their only guides being the shepherd and his dog. This animal is strictly attentive to the commands of his master, and always prompt in the execution of them. He is the watchful guardian of the flock, keeps them toge-

ther, and often drives them by himself from one pasture to another. We have heard of one of these dogs who was employed by a farmer in the south of Scotland to steal other people's sheep. His master had only to point out to him beforehand the sheep which he wished to appropriate to himself, and to send the dog at a convenient time to fetch them home. This charge he was sure to execute with the utmost punctuality and address. The proprietors of the stolen sheep were surpris'd at their loss, when they could not discover the person who had robbed them. The master of the dog was at length detected and hanged.

Mr Bewick speaks of a remarkable singularity in the feet of the shepherds dogs in the northern parts of this island, viz. their having one or two toes more than other dogs, which appear to be destitute of muscles, and hang dangling behind like an unnatural excrescence. This, however, is not peculiar to the shepherd's dog, but is found in the *spaniel*, *pointer*, and *hound*.

The *Siberian* or *Greenland dog* is a most useful animal to the inhabitants of the dreary regions of North America, and the north-east of Asia, especially Greenland and Kamtschatka. It bears a considerable resemblance to the shepherd's dog, but is much larger, and has more shaggy hair, and a more bushy tail. It is ferocious and savage, and rather howls than barks. It is principally employed in drawing sledges across the frozen snow; several of these animals being fastened to the sledge, which they draw with so much speed, that they have been known to perform a journey of 270 miles in less than four days.

The sledges are usually drawn by five dogs, four of them yoked two and two abreast: the foremost acting as a leader to the rest. The reins are fastened to a collar round the leading dog's neck, but are of little use in directing the pack, the driver depending chiefly upon their obedience to his voice, with which he animates them to proceed. Great care and attention are consequently used in training up those intended for leaders, which are more valuable according to their steadiness and docility; the sum of 40 rubles, or 10l. being no unusual price for one of them. The rider has a crooked stick, answering the purpose both of whip and reins, with which, by striking on the snow, he regulates the speed of the dogs, or stops them at his pleasure. When they are inattentive to their duty, he often chastises them by throwing it at them. He discovers great dexterity in regaining his stick, which is the greatest difficulty attending his situation; for if he should happen to lose it, the dogs immediately discover the circumstance, and seldom fail to set off at full speed, and continue to run till their strength is exhausted, or till the carriage is overturned and dashed to pieces, or hurried down a precipice.

The *Bull-dog* is the fiercest of the species, and in courage is scarcely excelled by any creature in the world. It is of a low stature, but very strong and muscular; has a short nose, and its under jaw projects forward, so as to render its aspect fierce and unpleasing. The cruel purpose for which these animals were formerly much employed, viz. bull-baiting, is now, much to the credit of the present times, going fast out of fashion, and we should hope, in the course of another century, will be entirely abolished. The uncommon ardour and obstinacy displayed by these dogs in attacking the bull,

Feræ.

63  
Siberian  
Dog.

62  
Shepherd's  
Dog.  
Fig. 22.

64  
Bull-Dog.



Ferre. bull, even under the greatest pain, are well illustrated by the following fact, related by Mr Bewick. Some years ago at a bull-baiting in the north of England, a young man, confident of the courage of his dog, laid some trifling wager, that he would, at separate times, cut off all the four feet of his dog, and that it would, after each amputation, still attack the bull. The inhuman experiment was tried; and the dog continued to seize the bull as eagerly as at first.

65  
Mastiff.  
Fig. 23.

The *Mastiff* is one of the largest and strongest dogs, and one of those for which this country is particularly famous. His principal office is that of guarding and securing houses, gardens, and other property, and for this he is admirably calculated, both from his strength and courage. The power of this dog was put to a severe trial in the reign of James I. when three of them were made to attack a lion. The result of the engagement is thus related by Stow. "One of the dogs being put into the den, was soon disabled by the lion, which took it by the head and neck, and dragged it about; another dog was then let loose, and served in the same manner; but the third being put in, immediately seized the lion by the lip, and held him for a considerable time, till being severely torn by his claws, the dog was obliged to quit his hold, and the lion, greatly exhausted in the conflict, refused to renew the engagement; but taking a sudden leap over the dogs, fled into the interior part of his den. Two of the dogs soon died of their wounds; the last survived, and was taken great care of by the king's son, who said, he that had fought with the king of beasts, should never after fight with any inferior creature."

M. D'Obsonville relates an instance of memory in a mastiff, which exceeds any thing of which even the human race seems capable. This dog, which had been brought up by him in India from a puppy, accompanied himself and a friend from Pondicherry to Benglour, a distance of above 300 leagues. The journey occupied nearly three weeks, and they had to traverse plains and mountains, to ford rivers, and go through several bye-paths. The dog, which had certainly never before been in that country, lost his master at Benglour, and immediately returned to Pondicherry. He went directly to the house of a friend of M. D'Obsonville's, with whom that gentleman had generally resided. Now the difficulty is, not so much to know how the dog subsisted on the road (for he was very strong, and able to procure himself food), but how he should so well have found his way, after an interval of more than a month.

An anecdote related by Mr Bewick shews that the mastiff possesses forbearance equal to his courage, and that he disdains to attack an inferior foe, while he knows how to chastise his impertinence. A large dog of this kind belonging to the late M. Ridley, esq. of Heatton, near Newcastle, being frequently molested by a mongrel, and teased by its continual barking, at last took it up in his mouth by the back, and with great composure dropped it over the quay into the river, without doing any farther injury to an enemy so much his inferior.

66  
Fox-hound.  
Fig. 24. There are several varieties of hounds, as the fox-hound, the beagle, and the harrier. Of these the fox-hound most merits our attention.

The *Fox-hounds* of Britain are considered as superior

in swiftness, strength, and activity, to those of every other country in Europe. As fox-hunting forms one of the most favourite diversions among our country gentlemen, the greatest attention is paid to the breeding, education, and maintenance of the fox-hounds; and this climate seems so congenial to their nature, that they will thrive nowhere else. It is asserted that when our fox-hounds are carried over to the continent, they always degenerate.

History of  
the Species.

The proper shape of a fox-hound is of considerable consequence, for if he is not of a perfect symmetry he will neither run fast nor bear hard work, and in a fox-chase, both great speed and strength are required. According to Mr Daniel, his legs should be as straight as arrows, his feet round and not too large; his shoulders should lie back; his breast should be rather wide than narrow; his chest deep, his back broad, his neck thin his head moderately small, his tail thick and bushy.

Fox-hounds are sometimes employed to hunt the stag, and there is on record a remarkable instance of the stoutness displayed by these dogs in such a chase. Many years since a stag was hunted from Whinfield park, in the county of Westmoreland, until by fatigue or accident the whole pack was thrown out, except two fox-hounds, bred by Lord Thanet, who continued the chase the greatest part of the day. The stag returned to the park from whence he had been driven, and as his last effort leapt the wall, and died as soon as he had accomplished it. One of the hounds ran to the wall, but being unable to get over it, lay down, and almost immediately expired: the other hound was found dead about half a mile from the park. The length of this chase is uncertain, but as they were seen at Red-kirks, near Annan, in Scotland, distant by the post-road about 46 miles, it is conjectured that the circuitous course they took, could not make the distance run, less than 120 miles.

The following anecdote is an admirable proof of the sagacity of the fox-hound. Two gentlemen had their hounds at Whinneck, Northamptonshire, and used sometimes to go to Lutterworth in Leicestershire for a fortnight's hunting. A favourite hound was left in Northamptonshire, on account of not being quite sound. The first day's hunting from Lutterworth produced an extraordinary chase, in which the hounds and horses were so tired, that it was deemed necessary to stop that night at Leicester. Upon their arrival next day at Lutterworth, they were told that a hound (which answered the description of that left in Northamptonshire), came there soon after their going out the preceding morning, and waited quietly until towards the evening; he had then shown signs of uneasiness, and in the morning had disappeared. It was concluded that, disappointed of finding his companions where he expected, the hound, whose name was *Dancer*, had returned to Whinneck; but to the surprise and concern of his masters, upon their returning home, they were informed that the hound had come back from Leicestershire, staid one day at the kennel, and then left it. Every possible inquiry was made, at length it was discovered that *Dancer*, upon not finding the pack either at Lutterworth or Whinneck, had proceeded into Warwickshire, to a Mr Newsome's, where the hounds had been for a week some months before\*.

The *Blood-hound*, was held in great esteem by our ancestors,

\* Daniel's  
Rural  
Sports,  
vol. ii.



History of  
the Species.

67  
Blood-  
hound.

ancestors, and was so remarkable for the fineness of its scent, that they employed it for recovering game that had escaped wounded from the hunters. It would also follow with considerable certainty the footsteps of a man to a great distance. In barbarous and uncivilized times, when a thief or murderer had fled, the blood-hound would trace him through the thickest and most secret coverts, and ceased not the pursuit till it had seized the felon. This is finely described by Somerville in his poem of *The Chase*.

Mr Boyle relates a story that shews the extreme acuteness of this dog's smell, as well as his surprising sagacity. A person of quality, to make a trial whether a young blood-hound was well instructed, caused one of his servants to walk to a town four miles off, and then to a market town three miles from thence. The dog, without seeing the man he was to pursue, followed him by the scent to the above-mentioned places, notwithstanding the multitude of market-people that went along the same way, and of travellers that had occasion to cross it; and when the blood-hound came to the chief market-town, he passed through the streets without taking notice of any of the people there, and left it not till he had gone to the house where the man he sought rested himself, and he found him in an upper room, to the wonder of those that followed him.

Blood-hounds are still employed in the southern part of the kingdom, either for recovering wounded deer, or for pursuing deer-stealers, whom they infallibly trace by the blood that issues from the wounds of their victims.

68  
Grey-  
hound.  
Fig. 26.

The *Greyhound* is the fleetest of all dogs, and can out-run every animal of the chase; but as it has not the fine scent of other hounds, it can pursue only by the eye, and must be indebted for success to its astonishing speed. The swiftness of this dog is so great that a swift horse can do little more than keep up with him, and his ardour in pursuit of game is such as not unfrequently to occasion his death.

Greyhounds were formerly held in such repute as to be considered a most valuable present even from or to princes.

69  
Irish Grey-  
hound.  
Fig. 27.

The *Irish greyhound* is supposed to be the largest of the species, as well as the most beautiful and majestic. One described by Mr Lambert, in the third volume of the *Linnæan Transactions*, measured above five feet from the nose to the tip of the tail, and they are said formerly to have been of a much larger size. They are found only in Ireland, and even in that country are now become extremely rare. The earl of Altamont is said to be the only person who possesses them, and his lordship has not more than eight. They were formerly employed in clearing the country of wolves, and are hence sometimes called *Irish wolf-dog*.

70  
Terrier.  
Fig. 25.

The *Terrier* is of two kinds, one with smooth glossy hair, commonly of a black colour, or black marked with reddish spots; and the other rough and shaggy, usually of a reddish brown mixed with gray. This dog is generally an attendant on every pack of fox-hounds, being employed to force the fox from his kennel, in which he is very expert. He is also the determined enemy of rats, weazels, and other vermin, and no dog is better calculated for the useless and cruel sport of hunting the badger. He is also a good water-dog.

Ferre.

Mr Hope has related an anecdote respecting the terrier, which shews that this animal is both capable of resentment when injured, and of great contrivance in order to accomplish his revenge; it indeed shews that he is possessed of a certain power of combining ideas, and communicating his thoughts to other dogs.

A gentleman of Whitmore in Staffordshire, used to come twice a-year to town, and being fond of exercise, generally performed the journey on horseback, accompanied most part of the way by a faithful little terrier dog, which, lest he might lose it in town, he always left to the care of Mrs Langford, the landlady at St Alban's; and on his return he was sure to find his little companion well taken care of. The gentleman calling one time, as usual, for his dog, Mrs Langford appeared before him with a woeful countenance:—Alas! sir, your terrier is lost! Our great house-dog and he had a quarrel, and the poor terrier was so worried and bit before we could part them, that I thought he could never have got the better of it. He, however, crawled out of the yard, and no one saw him for almost a week: he then returned, and brought with him another dog, bigger by far than ours, and they both together fell on our great dog, and bit him so unmercifully, that he has scarcely since been able to go about the yard, or to eat his meat. Your dog and his companion then disappeared, and have never since been seen at St Alban's. The gentleman heard the story with patience, and endeavoured to reconcile himself to his loss. On his arrival at Whitmore, he found his little terrier; and on inquiring into circumstances, was informed that he had been at Whitmore, and had coaxed away the great dog, who it seems had, in consequence, followed him to St Alban's, and completely avenged his injury.

The above anecdote, with others which we have before given, are abundantly sufficient to shew the great sagacity of the dog; but of all the qualifications that have been attributed to him, that of learning to speak must appear the most extraordinary. The French academicians, however, have given us an account of a dog in Germany which would call for tea, coffee, chocolate, &c. The account was communicated to the Royal Academy by the celebrated Leibnitz, and in substance is as follows: "This dog was of a middling size, and was the property of a peasant in Saxony. A little boy, the peasant's son, imagined that he perceived in the dog's voice an indistinct resemblance to certain words, and therefore took it into his head to teach him to speak. For this purpose he spared neither time nor pains with his pupil, who was about three years old when this his learned education commenced; and at length he made such a progress in language as to be able to articulate so many as thirty words. It appears, however, that he was somewhat of a truant, and did not very willingly exert his talents, being rather pressed into the service of literature, and it was necessary that the words should be first pronounced to him each time, which he, as it were, echoed from his preceptor. Leibnitz, however, attests that he himself heard him speak; and the French academicians add, that unless they had received the testimony of so great a man as Leibnitz, they should scarcely have dared to report the circumstance. This wonderful dog was born at Zeitz in Misnia, in Saxony.\*"

The flesh of the dog is eaten by some savage nations, and

\* Shaw's  
Zoology,  
vol. i.  
part 2.



Feræ. and we have heard of some epicures in this country who *fatten young puppies for their table*. The skin of this animal is made into leather for gloves, &c.

For the construction and management of dog kennels, see FARRIERY, Part iv. chap. i. sect. 3. For the best method of feeding hounds, see chap. ii. of the same part; and for the diseases of dogs and their treatment, especially the distemper and canine madness, see FARRIERY, Part vi.

<sup>72</sup>  
Wolf.  
Fig. 28.

2. *C. Lupus*. The Wolf.—The wolf is much larger, stronger, and more muscular than the dog; the upper part of his face is broader, and his whole form longer; the tail too has an inward direction, and is rather long and bushy; the opening of his mouth appears a little shorter in proportion than that of the dog, but his jaws are much stronger, his teeth larger, and his eyes placed more obliquely. His general colour is a pale gray with a cast of yellow; but it varies much in shade in different parts of the world.

He is found in almost all the temperate and cold regions of the globe, even as high as the arctic circle. He was formerly very common in Britain and Ireland, insomuch that King Edgar commuted the punishment of certain crimes into the acceptance of a number of wolves tongues, and in Wales converted the tax of gold and silver into an annual tribute of 300 wolves heads. Notwithstanding these endeavours to extirpate the race of wolves, we find that in the reign of Edward I. these animals had so much increased in number, as to require a mandate from that monarch to Peter Corbet to assist in their destruction. In the county of Derby certain persons held their lands by the suit of hunting and destroying the wolves that infested the country; whence they were called *wolve-hunt*. They infested Ireland many centuries after their extinction in England; for we are told that they were found there so lately as the year 1710. In Scotland the last wolf was killed in the latter end of the 17th century, by Sir Ewen Cameron of Lochiel. In the parts of America possessed by the United States, wolves are nearly extirpated; but very lately a reward of 20 or 30 shillings was offered for killing a wolf.

Wolves prey on all kinds of animals; but in case of necessity will feed upon carrion; in hard weather assemble in vast troops, and join in dreadful howlings. Horses generally defend themselves against their attacks, but all weaker animals fall a prey to them. Throughout France the peasants are obliged nightly to house their flocks. The wolf is naturally a suspicious animal, and though so ravenous as to devour his own species when pressed by hunger, yet he is so mistrustful as to imagine every thing he sees to be a snare laid to entrap him. If he finds a rein-deer tied to a post for the purpose of being milked, he dares not approach it for fear it should be placed there only to betray him; but when once the deer is let loose, he will pursue and seize him. He is however, so cowardly, that if the animal stands on the defensive, he will scarcely venture to attack it. They sally forth with great caution in quest of their prey; have a fine scent; hunt by nose; they are capable of bearing long abstinence; to allay their hunger will fill their bellies with mud; a mutual enmity subsists between the dogs and them; the female is in heat in winter, followed by several males, which occasions

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great combats; goes with young ten weeks; near her time prepares a soft bed of moss, in some retired place; brings from five to nine at a birth; the young born blind. Their bite is terrible, as their strength is great; the hunters therefore clothe their dogs, and guard their necks with spiked collars. Wolves are proscribed animals; destroyed by pitfalls, traps, or poison; a peasant in France who kills a wolf, carries its head through the villages, and collects some small reward from the inhabitants. The Khaiflocks take the wolves by the help of a large sort of hawk called beskat, which is trained for the diversion, and will fasten on them and tear out their eyes\*.

These animals abound in the immense forests of Germany, where the following methods are taken to destroy them. In some very sequestered part of the forest they hang up a large piece of carrion to the branch of a tree, having previously made a train of some miles long, leaving small pieces of putrid flesh here and there to allure the wolves to the spot; they then wait till it is dark, and approach the place with great circumspection. Here they sometimes find two or three wolves assembled, leaping up, and straining themselves to catch the bait, which is placed just within their reach; while the animals are busily employed in this way, the hunters being provided with fire-arms, seldom fail to dispatch them. Again in a convenient place, at the foot of a declivity, they make a small enclosure of strong poles, so high, that the wolf having once entered, cannot return again. An opening is left at the top of the bank; and a sheep that has been long dead, is the bait; to which he is allured by long trains, made from different places where he is known to haunt. As soon as he arrives at the spot, he examines every part of the inclosure, and finding no other way to come at the booty, he precipitates himself to the bottom; and having made a plentiful meal, endeavours in vain to re-ascend. His disappointment at not being able to get back, is productive of the most direful howlings, which alarm his enemies, and they either take him alive, or dispatch him with bludgeons. It is remarkable that when this animal finds there is no possibility of escaping, his courage entirely forsakes him; and he is for some time so stupified with fear, that he may be killed without offering to resist, or taken alive without much danger.

Notwithstanding the savage ferocity of the wolf, more than one instance has occurred of his being tamed. Buffon brought up one which remained very quiet and docile till he was 18 or 19 month old, when he broke his fetters, and ran off, after destroying a number of fowls, and killing a dog with whom he had lived in the greatest familiarity. It is said that Sir Atholton Lever had a tame wolf, which by proper education, was entirely divested of the ferocious character of its species.

The wolf is valuable for nothing but his skin, which makes a warm and durable fur.

It is now fully ascertained that the wolf and dog will breed together, and that the breed may be continued between the mules themselves, or between them and other dogs.

It has hence been conjectured that the wolf is the original stock whence the dog is derived, but the differences

History of  
the Species.

\* Pen-  
nant's  
Quadrupeds.



History of  
the Species.

73  
Hyæna.  
Fig. 29.

ferences between the two animals are so striking, that this supposition must be abandoned in favour of some other animal.

5. *C. Hyæna*. Hyæna.—This animal is about the size of a large dog, though it is sometimes found nearly six feet long from the root to the base of the tail. It is chiefly distinguished by its great strength of limbs, and a remarkable fullness of the snout, which is black; the ears are long, sharp pointed, and nearly naked, and from the neck there runs a strong bristly mane along the upper part of the back. The tail is rather short, but extremely thick and bristly with hair. All the feet have four toes. Its usual colour is a pale grayish brown, with a tawny cast, and the whole body is marked with several blackish transverse bands, running from the back downwards, those on the legs being most numerous, and of the deepest colour.

The hyæna is found in Asiatic Turkey, Syria, Persia, and in some parts of Africa, especially Barbary and Abyssinia.

It is one of the most ferocious animals of which we have any account; will prey on cattle, and frequently commits great devastation among the flocks, and prowls about in the night to feed on the remains of dead animals, or on whatever living prey it can seize. Troops of hyænas sometimes assemble, and follow the movements of an army, in order to feast on the bodies of the slain. They will even violate the repositories of the dead, and greedily devour the putrid contents of the grave. The courage of this animal is equal to its rapacity, and on occasion he will obstinately defend himself against much larger animals. He will sometimes attack the ounce and the panther, and Kæmpfer speaks of one that he saw put two lions to flight. This character, however, seems not to apply to the hyænas of Barbary; for we are told by Mr Bruce, that he has seen the Moors in the day time take this animal by the ears, and drag him along without his offering any other resistance than drawing back. The Abyssinian hyænas on the contrary, are extremely bold, and infest the towns so much in the night, that it is dangerous to stir out after dark. Mr Bruce tells us, that they were a plague in Abyssinia in every situation, both in the city and in the field, and he thinks surpassed even the sheep in number. "Gondar was full of them, from the time it became dark till the dawn of day, seeking the different pieces of slaughtered carcases, which this cruel and unclean people expose in the streets without burial, and who firmly believe that these animals are Falasha from the neighbouring mountains, transformed by magic, and come down to eat human flesh in the dark in safety. Many a time in the night, when the king had kept me late in the palace, and it was not my duty to lie there, in going across the square from the king's house, not many hundred yards distant, I have been apprehensive lest they should bite me in the leg. They grunted in great numbers about me, although I was surrounded with several armed men, who seldom passed a night without wounding or slaughtering some of them.

"One night in Maitsha, being very intent on an observation, I heard something pass behind me towards the bed; but upon looking round, could perceive nothing. Having finished what I was then about, I went out of my tent, resolving directly to return, which I immedi-

ately did, when I perceived two large blue eyes glaring at me in the dark. I called upon my servant with a light, and there was the hyæna standing near the head of the bed, with two or three large bunches of candles in his mouth. To have fired at him, I was in danger of breaking my quadrant or other furniture; and he seemed, by keeping the candles steadily in his mouth, to wish for no other prey at that time. As his mouth was full, and he had no claws to tear with, I was not afraid of him, but with a pike struck him as near the heart as I could judge. It was not till then that he shewed any sign of fierceness; but upon feeling his wound, he let drop the candles, and endeavoured to run up the shaft of the spear to arrive at me; so that, in self defence, I was obliged to draw my pistol from my girdle and shoot him; and nearly at the same time my servant cleft his skull with a battle-axe. In a word, the hyæna was the plague of our lives, the terror of our night walks, and the destruction of our mules and asses; which above all others, is his favourite food."

The voice of this animal is singular, beginning somewhat like the moaning of a human voice, and ending like a person making a violent effort to vomit.

Hyænas generally inhabit caverns and rocky places, where they keep themselves retired during the day.

There is said to be a remarkable particularity in this animal, viz. that when it is first dislodged from cover, and obliged to run, it always appears lame for a considerable space, sometimes to such a degree as would lead people to suppose one of his hind legs to be broken, though after running for some time this affection goes entirely off.

There is something peculiarly savage and gloomy in the aspect of the hyæna, which seems to indicate an extreme malignity of disposition, and his manners while in captivity seem to correspond with this appearance, being in general fierce and untractable. The opinion so decidedly maintained by most keepers of wild beasts, that the hyæna cannot be tamed, appears, however, to be erroneous, as there are at least two instances of the contrary on record, one by Mr Pennant, who declares that he saw a hyæna that had been rendered as tame as a dog, and the other by Buffon, who assures us, that in an exhibition of animals at Paris, in the year 1773, there was a hyæna which had been tamed very early, and was apparently divested of all its natural malevolence of disposition.

7. *C. Aureus*. Jackal. In external figure the jackal resembles the wolf more than the fox. It is also larger, and stands higher on its legs than the fox. The head is of a fox-red above, mixed with ash gray hairs, which have each a blackish ring and tip; the upper lip is white on each side of the nose, and the throat is of the same colour; the whiskers, the long hairs on the chin, and those above the eyes, which are five in number, are black; the ears are fox-red externally, and white internally; the neck and back are all over gray yellow, and both, but especially the latter, are dashed with a shade of dusky, owing to the tips of the long hairs on those parts; the under parts of the body and the legs are of a light reddish yellow, but the shoulders and thighs are externally of a fox-red; the claws are black; the thumb claw stands higher than in the dog, and is crooked; the tail is straight, somewhat longer, and

Feræ.

74  
Jackal.  
Fig. 30.



*Feræ.* and more hairy than in the wolf, and is of a grayish yellow, more inclining to fox-red towards the end; the long hairs have black tips, and consequently the tip of the tail appears black; the hair of the jackal is stronger and coarser than that of the wolf, and is longest on the shoulders and tail, where it measures four inches; on the neck and back it is shorter by an inch; between the hairs is situated a woolly fur of a gray colour. The four middle front teeth are of a truncated form, or if cut off, flat, not perceptibly notched or indented; the two exterior larger ones in the upper jaw are somewhat carinated, in the lower rounded; the fide or canine teeth in the upper jaw are somewhat larger than in the under; the grinders are six on each side, the first being the smallest, and of a conical shape; the next grinders, to the number of two in the upper and three in the lower, are gradually larger, and divided into three points: the fourth of the upper jaw and the fifth of the under are the largest, and have two points: the remaining ones stand deeper in the jaw, or more inwards, and are smaller than the preceding; the tongue has on each side a border or row of small verrucæ or warts.

The female breeds only once a year, goes with young about four weeks, and brings forth from six to eight at a time.

Jackals go in packs of 40, 50, or even 200 at a time, and hunt like hounds in full cry, from evening to morning. They are less destructive to poultry than the wolf; they ravage the streets and villages, and gardens, and will even destroy children, if they are left unprotected. They will enter stables and out-houses, and eat any materials made of leather; they will familiarly come into a tent, and carry off whatever they can take from the sleeping traveller. For want of living prey, they will devour putrid carcases, eat the most infected carrion, and even disinter the dead, for which reason the graves in many countries are made of a great depth. Like the hyæna they will follow armies, in hopes of feasting on the slain. When they cannot get animal food, they will even feed on fruits and roots. They burrow in the earth, and lie there all the day, coming out at night to hunt. They hunt by the nose, and are very quick in scent, filling the air with the most horrid howlings when they begin the chase. The lion, panther, and other beasts of prey, take advantage of the general conformation, and follow the jackals in silence till they have hunted down their prey, when they come up and devour the fruits of the jackal's labours, leaving them only the remains of the spoil. Hence the jackal has been vulgarly termed the *lion's provider*.

There is great reason to believe that the jackal forms the primeval stock from which the domestic dog has originated. The external form, internal structure, and manners of both are very similar. According to Mr Guldenstadt, the jackal has a natural propensity to follow mankind, instead of flying from him like the wolf or the fox; the whelp of the jackal is readily tamed, and when grown up, assumes all the habits of the domestic dog; fawns on his master, expresses his joy by wagging his tail, throws himself on his back, murmurs gently, distinguishes his name, jumps on the table, &c. The jackal and dog also readily breed together, as appears from various testimonies.

11. *C. Vulpes.* Fox. The fox is found in all the temperate regions of the globe; throughout Europe, and great part of Asia; he abounds in North America, but is scarcely met with in Africa, except in Barbary. It is very common in this island. There are several varieties of the common fox; and three of these, viz. the *greyhound*, the *massiff*, and the *cur fox*, are met with in Britain. Of these the greyhound is the largest, and is chiefly found in the mountainous parts of this island; the cur is the smallest, but the most common.

Foxes differ very much in point of colour, according to the climate which they inhabit. In Britain they are usually of a yellowish brown colour, with white or ash-coloured marks on the forehead, shoulders, hind part of the neck, and outside of the hind legs; the lips, throat, and cheeks are white, and there is usually a white stripe running along the under side of the legs; the breast and belly whitish gray, mixed with ash colour; the tips of the ears and feet are black, and the tail is of a reddish yellow, with the tip white. In general form the fox much resembles the dog, except that his head is larger in proportion to his body, his snout more pointed, his ears shorter, and his tail more long and bushy. His eyes are prominent and piercing, of a lively hazel colour, and very expressive of the several passions by which the animal is agitated.

The smell of this animal is proverbially strong and offensive, and is said to resemble so exactly that of the root of crown imperial, (*frillaria imperialis*, Lin.) as scarcely to be distinguished from it. It has however been remarked, that from a spot at the base of the tail, there proceeds an odour which has been compared to that of violets. He possesses the faculty of smelling in a degree equal to the dog, and can scent his food or his foe at the distance of some hundred yards. He has a yelping kind of bark, consisting of a quick succession of similar tones, concluding in an elevation of the voice, something like the cry of a peacock. He yelps much when in heat, and during winter, especially in frost and snow; but in summer he is almost entirely silent. In summer he casts his hair.

The fox chooses his habitation in brakes, woods, or coppices; and here he prepares his bed below hard ground, the roots of trees, or similar situations, where he can make proper outlets to escape danger. The fox's bed, in the language of hunters, is called his *kennel*; when he retires to it, he is said to *go to earth*, and when forced from it by his pursuers, he is said to be *unkenned*. Foxes have been known to form their beds in hollow trees, that they may the better secure their young. This animal does not always take the trouble to construct a hole for himself, but often procures one by dispossessing the badger, which he does, as is said, by depositing his urine in the badger's hole, and thus obliging that cleanly animal to abandon his contaminated dwelling. He usually fixes his habitation not far from the dwellings of man, especially in the neighbourhood of farm yards. He generally keeps retired during the day, though sometimes he may be seen in clear warm weather basking in the sunshine in some dry place, and sometimes amusing himself with running round after his tail. He is so much attached to his usual abode, that it is not easy to induce him to leave



History of it for another, and the same fox has been caught in the same place four successive times, having repeatedly after his escape made for his old cover\*.

\* Daniel's  
Rural  
Sports,  
vol. i  
p. 229.

The food of the fox consists chiefly of birds, especially game and poultry, and of the lesser quadrupeds, as of young hares, rabbits, and even field mice, rats, lizards, toads, and serpents. The greyhound fox is said to attack sheep, and carry off young lambs. When pressed by hunger he will eat carrion, roots, and insects, and near the sea coast will feed on crabs, shrimps, or shell fish. He is very fond of grapes, and in France and Italy often does great mischief among the vines. He is said also to be fond of honey, for which he will attack the bee-hives, and though obliged repeatedly to make off by the fury of the enraged bees, after ridding himself of his enemies by rolling on the ground and killing them, he successively returns to the charge, and seldom fails to make himself master of the booty.

In his attack upon the neighbouring poultry, he chooses his time with judgement; and concealing his road, glides forward with caution. If he can leap the fence, or get in below it, he ravages the yard, puts all the poultry to death, and then takes measures for securing what he has killed. He retires softly with his prey, which he either hides in holes that he digs for that purpose, carefully covering it with earth, or carries it to his kennel if this be near; in a few minutes he returns for more, which he conceals in a similar manner, but in a different place, and he will thus carry off a whole flock of poultry, one by one, to his hiding places, thrusting them in with his nose, and leaving them till hunger calls for a supply. In this way he proceeds till the rising of the sun, or some noise about the farm house, gives him notice that it is time to retire.

In procuring young rabbits from their burrows, he exhibits a great degree of cunning. He does not enter the hole, for as this is very narrow, he would be obliged to dig several feet along the ground below the surface; but he follows the scent of the rabbits above, till he comes to the end where they lie, and then scratching up the earth, descends upon them and devours them.

When foxes are in heat they are said by sportsmen to go to *clicks*; this takes place in winter: the females produce but once a year, and have from three to six young ones at a birth. While breeding, the bitch seldom lies far from the earth, and after littering, if she perceives her retreat to be discovered, she removes her cubs one by one to some more secure situation. The cubs are usually first found in the latter end of March; when brought forth, they are blind like puppies, and of a very dark brown colour; they grow for 18 months, and live about 13 or 14 years. The fox is exceedingly careful of her young, and a remarkable instance of her parental affection is recorded by Goldsmith. A she fox that had, as it should seem, but one cub, was unkenneled by a gentleman's hounds, and hotly pursued. The poor animal braving every danger, rather than leave her cub behind to be worried by the dogs, took it up in her mouth, and ran with it in this manner for some miles; at last, passing through a farmer's yard, she was assaulted by a mastiff, and obliged to drop her cub, which was taken up by the far-

mer. It is pleasing to add that the affectionate creature got off in safety.

The fox and the dog readily breed together, and the produce is a very useful animal as a dog.

Foxes are sometimes domesticated, but are scarcely ever fully tamed.

The hunting of this animal is one of the greatest diversions of our country gentlemen. For an account of fox-hunting, see HUNTING. The skins are valuable for muffs, tippets, &c.

The arctic fox, *C. lagopus*, is well described by Steller, for whose entertaining account of their manners, we must refer to Mr Bingley's Animal Biography, vol. i.

23. *C. Zerda. Fennec.* This beautiful little animal is about 10 inches long, and of a yellowish white colour; its eyes are large and of a bright black; its ears of an uncommon size, internally of a bright rose colour, and edged with a broad margin of white-hair, with an orifice so small as to be scarcely visible; its legs and feet are shaped like those of a dog; its tail long, tapering, and tipped with black.

It inhabits the vast deserts of Saara, that extend beyond Mount Atlas, and is said to be called by the Moors, *zerda*, though Mr Bruce, who saw it often, and kept two or three specimens of it, says that its proper name is *fennec*. It feeds on insects, especially locusts, sits on its rump, barks like a dog, only with a shriller voice; is very vigilant, and so swift that it is very rarely taken alive.

The following interesting account of its manners and appearance, is given by Mr Bruce.

"Though his favourite food seemed to be dates, or any sweet fruit, yet I observed he was very fond of eggs; and small birds eggs were first brought him, which he devoured with great avidity; but he did not seem to know how to manage that of a hen; but when broke for him, he ate it with the same avidity as the others. When he was hungry he would eat bread, especially with honey or sugar. It was very observable that a bird, whether confined in a cage near him, or flying across the room, engrossed his whole attention. He followed it with his eyes wherever it went, nor was he, at this time, to be diverted by placing biscuit before him; and it was obvious, by the great interest he seemed to take in its motions, that he was accustomed to watch for victories over it, either for his pleasure or his food. He seemed very much alarmed at the approach of a cat, and endeavoured to hide himself, but showed no symptom of preparing for a defence. I never heard he had any voice; he suffered himself, not without some difficulty, to be handled in the day, when he seemed rather inclined to sleep, but was exceedingly unquiet and restless so soon as night came, and always endeavouring his escape, and though he did not attempt the wire, yet with his sharp teeth he very soon mattered the wood of any common bird cage. From the snout to the anus he was about 10 inches long, his tail five and a quarter, near an inch on the tip of it was black. From the point of his fore shoulder to the point of his fore toe, was two inches and seven-eighths. He was two inches and a half from his occiput to the point of his nose; the length of his ears three inches and three-eighths. These were doubled or had a plait on the bottom on the outside; the border;

76  
Zerda.  
Fennec.  
Fig. 31.



**Feræ.** borders of his ears on the inside were thick covered with soft white hair, but the middle part was bare, and of a pink or rose colour. They were about an inch and a half broad, and the cavities within were very large. It was very difficult to measure these; for he was very impatient at having his ears touched, and always kept them erect, unless when terrified by a cat. The pupil of the eye was large and black, surrounded by a deep blue iris. He had strong, thick mustachoes; the tip of his nose very sharp, black, and polished. His upper jaw reached beyond the lower, and had four grinders on each side of the mouth. It had six fore teeth in each jaw; those in the under jaw are smaller than the upper; the canine teeth are long, large, and exceedingly pointed; his legs are small and his feet very broad; he has four toes armed with crooked, black, sharp claws; those on his fore feet more crooked and sharp than behind. All his body is nearly of a dirty white, bordering on cream-colour; the hair of his belly rather whiter, softer, and longer than the rest; and on it a number of paps, but he was so impatient it was impossible to count them. He very seldom extended or stiffened his tail, the hair of which was harder. He had a very sly and wily appearance. But as he is a solitary animal, and not gregarious, as he has no particular mark of feelings about him, no shift or particular cunning which might occasion Solomon to qualify him as wise, as he builds his nest upon trees, and not on the rock, he cannot be the Saphan (or *coney*) of the scripture, as some, both Jews and Arabians, not sufficiently attentive to the qualities attributed to that animal, have nevertheless erroneously imagined."

## Genus 16. FELIS.

Six front teeth, of which the intermediate are equal; three grinders on each side; tongue beset with reversed prickles; claws retractile.

In this as in the last genus, the individuals would require a particular examination, though they agree more together in their form and habits than those of the dog tribe. We shall here, as in the last genus, first discriminate the species, and then give an account of some of the most remarkable individuals.

Dr Shaw distinguishes 25 species by the following names and characters.

Species 1. *Felis Leo*, Lion. Colour pale, tawny, or dun; tail long and floppy at the tip.—2. *F. Tigris*, Tiger. Tail elongated; body marked with long transverse streaks.—3. *F. Pardus*, Panther. Tail elongated; body yellow, marked with orbicular spots above, and lengthened ones below.—4. *F. Leopardus*, Leopard. Body yellow, marked with black spots, nearly contiguous, disposed in circles.—5. *F. Jubata*, Hunting Leopard. Colour pale fulvous, with round black spots; tail of moderate length; neck slightly maned.—6. —*F. Uncia*, Ounce. Tail long; body whitish, with irregular black marks.—7. *F. Onca*, Jaguar. Tail of moderate length; body yellowish, with black ocellated roundish cornered spots, with yellow central spaces.—8. *F. Pardalis*, Ocelot. Tail longish, long stripe-shaped spots on the upper parts, and round ones on the lower.—9. *Cinerea*, Cinereous Cat.—10. *F. Puma*, Puma. Tail long; body reddish-brown, whitish beneath.—11. *F. Dicolor*, Black Tiger. Tail long;

body black above, whitish below.—12. *F. Tigrina*, Margay. Tail long; body fulvous, striped and spotted with black, whitish beneath.—13. *F. Capensis*, Cape Cat. Fulvous, with longish tail annulated with black; body marked with black stripes above, with rounded and lunated black spots on the other parts, and a lunated white bar on the ears.—14. *F. Bengalenfis*.—15. *F. Manul*, Manul. Tail elongated, and annulated with black; head marked with spots, and two lateral bands of black.—16. *F. Catus*, Common Cat. Yellowish gray, with dusky bands, three on the back longitudinal; those on the sides spiral; tail barred with dusky rings.—17. *F. Japanensis*, Japan Cat.—18. *F. Guigna*, Guigna Cat.—19. *F. Corololo*, Corololo.—20. *F. Serval*, Serval. Tail shortish; body tawny brown, whitish beneath, marked with roundish dusky spots; orbits of the eyes white.—21. *F. Montana*, Mountain Lynx.—22. *F. Chaus*, Chaus. Tail moderately short, annulated towards the tip, with the tip black; body brownish yellow; ears brown, bearded with black at the tips.—23. *F. Rufa*, Bay Lynx. Tail short; body bay, obscurely spotted with black; tail white beneath and at the tip; ears bearded at the tip.—24. *F. Caracal*, Caracal. Tail shortish; body reddish-brown; ears black externally, and tipped with long black hairs.—25. *F. Lynx*, Common Lynx. Tail short; body rufous, gray, slightly spotted with black, white beneath; tail black at the tip; ears terminated by long black hairs.

1. *F. Leo*, The Lion.—The lion has usually been considered as the most dignified and majestic inhabitant of the forest. His vast size and prodigious strength well entitle him to the rank of lord over most other beasts; though from the observations of modern travellers and naturalists, we are obliged to consider him in a light less formidable and less amiable than that in which he is displayed by earlier writers.

This animal seldom exceeds eight feet in length from nose to tail, and the tail itself usually measures about four feet; his head is very large; his ears rounded; his face covered with short or close hair, while the upper part of the head, the neck and shoulders are coated with long and shaggy hair, hanging down below the breast and fore part of the belly, like a mane; the hair on the body is short and smooth; and the tail is terminated by a blackish tuft. The usual colour of the lion is a pale tawny, inclining to white on the lower part of the body.

The lioness is smaller than the lion, of a whiter colour beneath, and destitute of mane.

The lion is principally found in Africa, and is also met with, though by far less plentifully, in the hotter parts of Asia; but it is in the interior of Africa that he exerts his greatest ravages, and reigns superior among the weaker quadrupeds. His habitation is in the thickest parts of the forest, and he is seldom seen by day; but, when night approaches, he quits his retreat, and prowls about for prey. The roaring of this animal when in quest of prey, is generally said to resemble the sound of thunder; and being re-echoed by the rocks and mountains, it appals the whole race of animals. Frequently, however, he varies his voice into a sort of a scream or yell. His strength is so great, that it is affirmed a single stroke of his paw is sufficient to break the back of a horse; and he has been seen to carry off

with

History of  
the Species

78  
Lion.  
Fig. 32.



History of  
the Species.

with apparent ease a middle-sized ox, or even a buffalo. We are told by Kolben, that he usually knocks down his prey with his paw, and seldom bites it till he has given the mortal blow. His teeth are so strong, that he breaks the largest bones with ease, and swallows them with the flesh; and the prickles on his tongue are so large and strong, as to be capable of lacerating the skin. He usually conceals himself in a thicket, from which he darts upon his prey: and, it is said, that if he chances to miss his aim, he will not follow his prey any farther; but, as though ashamed, he turns back to the place from which he sprung on it, slowly, and step by step, as it were, measuring the distance between the two points, as if to find out how much too short, or how much beyond the mark, he had taken his leap.

Dr Sparrman says, that from all the most credible accounts he could collect concerning lions, as well as from what he himself saw, he thinks he may safely conclude, that this wild beast is frequently a great coward, or, at least, deficient in point of courage comparatively to his strength; on the other hand, however, he sometimes shews an unusual degree of intrepidity, of which he mentions the following instance as it was related to him.

A lion had broken into a walled inclosure for cattle through the latticed gate, and done considerable damage. The people belonging to the farm were assured of his coming again by the same way: in consequence of which they stretched a rope directly across the entrance, to which several loaded guns were fastened in such a manner, that they must necessarily discharge themselves into the lion's body, as soon as ever he should push against the cord, as it was expected he would, with his breast. But the lion, who came before it was dark, having probably some suspicions respecting the cord, struck it away with his foot, and without betraying the least fear, in consequence of the report made by the loaded pieces, went on steadily, and careless of every thing, and devoured the prey he had left untouched before.

The lion is said to prefer the flesh of a Hottentot to that of any other animal; and in order to procure it, will sometimes depart from his usual method of quitting his prey when he misses his aim. It is surprising with what obstinacy he will follow one of these unfortunate savages. We are informed by Mr Barrow, that one of the Namaqua Hottentots, endeavouring to drive his master's cattle into a pool of water, inclosed between two ridges of rocks, espied a huge lion couching in the midst of the pool. Terrified at the unexpected sight of such a beast, that seemed to have its eyes fixed upon him, he instantly took to his heels. In doing this he had presence of mind enough to run through the herd, concluding, that, if the lion should pursue, he would take up with the first beast that presented itself. In this, however, he was mistaken. The lion broke through the herd, making directly after the Hottentot, who, on turning round, and perceiving that the monster had singled him out, breathless and half dead with fear, scrambled up one of the tree-aloes, in the trunk of which a few steps had luckily been cut out, to come at some birds nests that the branches contained. At the same moment the lion made a spring at him, but missing his aim, fell upon the ground. In surly silence he

walked round the tree, casting at times a dreadful look towards the poor Hottentot, who had crept behind the nests. We should here remark, that these nests belong to a small bird of the genus *Loxia*, that lives in a state of society with the rest of its species, constructing a whole republic of nests in one clump, and under one cover. One of these clumps of nests will sometimes extend a space of 10 feet in diameter, and contain a population of several hundred individuals. It was under the cover of one of these edifices that the Hottentot screened himself from the sight of the lion. Having remained silent and motionless for a length of time, he ventured to peep over the side of the nest, hoping that the lion had taken his departure; when to his great terror and astonishment, his eyes met those of the animal, which, as the poor fellow afterwards expressed himself, flashed fire at him. In short, the lion laid himself down at the foot of the tree, and did not remove from the place for 24 hours. At the end of this time becoming parched with thirst, he went to a spring at some distance in order to drink. The Hottentot now, with trepidation, ventured to descend, and scampered off home, which was not more than a mile distant, as fast as his feet could carry him, where he arrived in safety. The perseverance of the lion was such, that it afterwards appeared, he returned to the tree, and finding the man had descended, hunted him by the scent to within 300 paces of the house\*.

An elderly Hottentot observed a lion following him at a great distance for two hours together. He thence naturally concluded, that the lion only waited the approach of darkness, in order to make him his prey; and in the meantime expected nothing else than to serve for this fierce animal's supper, as he had no other weapon of defence than a staff. But as he was well acquainted with the nature of the lion, and the manner of its seizing upon its prey, and at the same time had leisure at intervals to ponder on the ways and means in which it was most probable that his existence would be put an end to, he at length bethought of a method of saving his life. For this end, in place of making his way home, he looked out for a *kliprans*, or a rocky place level at top, and having a perpendicular precipice on one side of it; and sitting down on the edge of one of these precipices, he found, to his great satisfaction, that the lion also made a halt, and kept the same distance as before. As soon as it grew dark, the Hottentot sliding a little forwards, let himself down below the upper edge of the precipice upon a projecting part of the rock, where he could barely keep himself from falling. But in order to deceive the lion still more, he set his hat and cloak on the stick, making with it at the same time a gentle motion just over his head, and a little way from the edge of the mountain. This crafty expedient had the desired effect. He did not remain long in that situation, before the lion came creeping softly towards him like a cat, and mistaking the skin cloak for the Hottentot himself, took his leap with such exactness and precision, as to fall headlong down the precipice, directly close to the snare which had been placed for him; when the Hottentot is said, in great joy, exultingly to have called out, *t'katfi*; an interjection which is of very extensive import and signification †.

Next to Hottentots flesh he is said to prefer that of man's horses † *Spart-Voyage*.

Fere.

\* Barrow's  
Travels in  
Africa,  
vol. i.

† Spart-  
Voyage.



*Fera.* horses and buffaloes, but on the sheep he seldom deigns to fix his paw, perhaps from his woolly covering, which he is too indolent to be at the labour of uncaſing. It is commonly ſaid, that a lion will devour as much at once as will ſerve him for two or three days, and when ſatiated with food, he returns to his den, where he remains in a ſtate of inactivity till hunger again compels him to ſeek for food.

Though this animal has generally been repreſented as extremely brave as well as ferocious, it has not unfrequently happened, that he has been frightened or driven away by the oppoſition of a much inferior enemy. It is ſaid, that a traveller once had an opportunity of ſeeing a female buffalo with her calf, defended by a river at her back, keep at bay for a long time five lions which had partly ſurrounded her, but did not, as long as the traveller looked on, dare to attack her; and we are informed, that Mr. Brew, commander of the Senegal company on the African coaſt, had once near him a large full-grown tame lion, about four years old, when a flock of goats paſſed. All the goats except one, ran off with terror at the ſight of the lion, but this one looking ſtedfaſtly at the lion, ſtamped with his foot on the ground in a menacing manner, then retreated three ſteps, and inſtantly returning, ſtruck the lion's forehead ſo violently with his horns, that the animal was ſtunned by the blow, and having repeated this ſeveral times before the lion could recover himſelf, the monſtrous animal was thrown into ſuch confuſion, that he went behind his maſter for protection.

The lion does not always deſtroy the object that he attacks, but ſeems ſometimes to ſpring on an animal through wantonneſs. Dr. Sparrman was told of ſeveral who had eſcaped from the paw of lions. At St Catharine Cru's church, Leadenhall-ſtreet, London, proviſion is made, under the will of Sir John Gager, who was lord mayor in the year 1646, for a ſermon to be annually preached, with a charitable donation, on the 16th of November, in commemoration of his happy deliverance from a lion, which he met in a deſert as he was travelling in the Turkiſh dominions, and which ſuffered him to paſs unmoлеsted.

There ſeems no doubt, that in thoſe places where mankind have made the greateſt advances towards civilization, the lion has loſt much of his native boldneſs and ferocity. Experience ſeems to have taught him, that in cunning and reſources he is inferior to man, and he therefore ſeldom attacks the human race, except forced to it by the imperious calls of hunger.

The lionneſs is ſaid to breed only once a-year, and to produce four or five at a birth, which ſhe nurſes with great aſſiduity, and attends in their firſt excuſions for plunder. Theſe animals readily breed in captivity.

Buffon, reaſoning from the ſize and conſtitution of the lion, and the time required for his arrival at full growth, concluded, that he ought to live about 25 years; but if we may depend upon the accounts that have been given of ſome lions kept in the Tower of London, the period of his life may be conſiderably extended. One of theſe called Pompey, is ſaid to have lived at leaſt 70 years, and another 63.

The lion has been often brought from his native foreſts into Europe; and, when taken young, is capa-

ble of being made very gentle and tractable. Many of our readers will have ſeen the keepers of wild beaſts play tricks with this monſtrous animal, which he appears to bear without ſhewing any marks of anger. He ſeems to bear all with the greateſt compoſure, and we ſeldom hear of his revenging theſe unprovoked fallies of impertinent curioſity. It is, however, not always ſafe to play with, and ſtill leſs ſo to mingle blows with careſſes, as is done by ſome injudicious keepers.

Numerous inſtances are on record of the lion's gentleneſs, ſagacity, and gratitude, while in a ſtate of domeſtication. He has been known to ſpare the lives of animals that were thrown to be devoured by him; to live peaceably with them; to afford them part of his food, and even to want food himſelf, rather than deprive them of that life which his generoſity had once ſpared. A dog was put into the cage of a lion in the menagery at the tower, ſome years ago, for food; the ſtately animal, however, ſpared his life, and they lived together for a conſiderable time in the ſame den, in the moſt perfect harmony, and appeared to have a great affection for each other. The dog had ſometimes the impudence to growl at the lion, and even diſpute with him the food which was thrown to them; ſo true is the old proverb, *familiarity breeds contempt*: but the noble animal was never known to chaſtiſe the impertinent conduct of his little companion, but uſually ſuffered him to eat quietly till he was ſatisfied, before he began his own repaſt.

Mr Hope relates an anecdote of a lion in the poſſeſſion of the duchefs of Hamilton ſome years ago, which affords a ſtriking inſtance both of the retentive memory of this animal, and of his attachment to thoſe who have been kind to him. "One day (ſays Mr Hope) I had the honour of dining with the duchefs of Hamilton: after dinner the company attended her grace to ſee a lion, that ſhe had in the court, fed. While we were admiring his fierceneſs, and teasing him with ſticks to make him abandon his prey and fly at us, the porter came and informed the duchefs, that a ſerjeant with ſome recruits at the gate, begged permiſſion to ſee the lion. Her grace, with great condeſcenſion and good nature, aſked permiſſion of the company for the travellers to come in, as they would then have the ſatisfaction of ſeeing the animal fed. They were accordingly admitted at the moment the lion was growling over his prey. The ſerjeant, advancing to the cage, called out, "Nero, Nero, poor Nero, don't you know me?" The animal inſtantly turned his head to look at him, then roſe up, left his prey, and came wagging his tail, to the ſide of the cage. The man then put his hands upon him, and patted him: telling us, at the ſame time, that it was three years ſince they had ſeen each other, but that the care of the lion on his paſſage from Gibraltar, had been committed to him, and he was happy to ſee the poor beaſt ſhow ſo much gratitude for his attention. The lion indeed ſeemed perfectly pleaſed; he went to and fro, rubbing himſelf againſt the place where his benefactor ſtood, and licked the ſerjeant's hand as he held it out to him. The man wanted to go into the cage to him, but was prevented by the company, who were not altogether convinced of the ſafety of the act \*."

The lion is frequently hunted at the Cape of Good Hope,

\* *Thoughts in Proſe and Verſe.*



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the Species.

Hope, for the sake of his skin and flesh, which latter is esteemed by some an excellent food, and is often eaten by the negroes. The colonists of the Cape hunt him with dogs, and it is said that 12 or 16 are sufficient to overcome one lion. The lion runs for some time after being roused, then stops and shakes his mane, as if in defiance of the dogs, who, as soon as they have an opportunity, rush all at once upon him, and soon overpower him. Three or four of the dogs, however, are commonly killed in the conflict, being struck dead by the first strokes of his paw.

79  
Tiger.  
Fig. 33.

2. *F. Tigris*, the Tiger.—This most beautiful, but most destructive of quadrupeds, is nearly equal in size to the lion, and has even been seen larger, viz. 15 feet long from the nose to the tip of the tail. The prevailing colour of the body is a deep tawny, or orange yellow; the face, throat, and lower part of the belly being nearly white, and the whole is traversed by numerous long black stripes, forming a bold and striking contrast with the ground colour. These stripes are proportionally smaller on the face and breast, than on the other parts of the body. The tail is shorter than the body, and is surrounded with black rings. Dr Shaw observes, that when seen in perfection, and before its health has been impaired by confinement, it is scarcely possible to conceive a more elegantly variegated animal than the tiger: the bright and intense orange yellow which constitutes the ground colour; the deep and well-defined stripes of black, in some parts double, in others single; the pure white of the cheeks and lower parts of the sides, over which a part of the black striping is continued, form, altogether, an appearance far superior in beauty to the skin of the zebra, or that of any other regularly-marked quadruped, not excepting even the panther itself.

This animal is confined to the warmer parts of Asia, and is principally found in the peninsula of India, and the Indian islands. The species extends, however, as far as China and Chinese Tartary, to the lake Ural and the Altaic mountains.

The tiger is of a disposition so fierce and sanguinary, as to surpass in rapacity every other wild beast; indeed there is no animal that he will not venture to attack. Dreadful combats sometimes take place between him and the lion, and they are carried on with such fury and obstinacy, that both parties are often found dead together. He commits horrid ravages among the flocks and herds, and neither the sight nor opposition of man have power to make him desist. It is said that when undisturbed, he plunges his head into the body of the animal he has slaughtered, and greedily sucks its blood. His strength is astonishing. We are told that a peasant in the East Indies, had a buffalo fallen into a quagmire, and while he went to call for assistance, an immense tiger came, that immediately drew out the animal, on which the united efforts of several men had no effect. When the people returned, the first object they beheld was the tiger, with the buffalo thrown over his shoulder, as a goose is by a fox: he was carrying him away with his feet upward, towards his den. As soon, however, as he saw the men, he let fall his prey, and instantly fled to the woods; but he had previously killed the buffalo, and sucked its blood. If we consider that a buffalo is often twice the size of our ordinary cattle, we may form some idea of the immense strength

3

of an animal that could thus run off with a carcase as large again as himself.

Ferae.

The tiger's method of seizing his prey is similar to that of the lion, rushing on it at once from his concealment, with a horrid roar. His voice when springing on his victim, is said to be hideous beyond conception. Like the lion, if he misses his aim, he makes off without repeating the attack for that time.

The tiger seems to prefer the flesh of man to that of any other prey, as he takes all opportunities of seizing a man where he thinks there is any chance of success. Many of our readers will perhaps remember to have read an account of the melancholy fate of Mr. Menro, who was killed by a tiger in the East Indies in the year 1792. "We went (says the narrator) on shore on Sangar island, to shoot deer, of which we saw innumerable tracks, as well as of tigers; notwithstanding which, we continued our diversion till near three o'clock, when, sitting down by the side of a jungle to refresh ourselves, a roar like thunder was heard, and an immense tiger seized on our unfortunate friend, and rushed again into the jungle, dragging him through the thickest bushes and trees, every thing giving way to his monstrous strength; a tigress accompanied his progress. The united agonies of horror, regret, and fear, rushed at once upon us. I fired on the tiger; he seemed agitated; my companion fired also; and in a few moments after this, our unfortunate friend came up to us bathed in blood. Every medical assistance was vain, and he expired in 24 hours, having received such deep wounds from the teeth and claws of the animal, as rendered his recovery hopeless. A large fire, consisting of 10 or 12 whole trees, was blazing by us at the time this accident took place, and ten or more of the natives were with us. The human mind can scarcely form an idea of this scene of horror. We had hardly pushed our boat from that accursed shore, when the tigress made her appearance, almost raging mad, and remained on the sand all the while we continued in fight.

In the beginning of the last century, as Mr Pennant was informed, some gentlemen and ladies being on a party of pleasure, under a shade of trees, on the banks of a river in Bengal, observed a tiger preparing for its fatal spring. One of the ladies, with amazing presence of mind, laid hold of an umbrella, and furling it full in the animal's face, which instantly retired, and gave the company opportunity of removing from so terrible a neighbour.

The tigress, like the lioness, produces four or five young at a litter, and though at all times furious, her rage rises to the greatest extremity in defence of her young. If robbed of them, she pursues her plunderers with the greatest fury and obstinacy, and they are often obliged to drop some of the young tigers, to prevent her from attacking them.

We are told by keepers of *wild beasts*, that the tiger when full grown, is incapable of being tamed; but it appears that when young, they are gentle, and as playful as a kitten.

The skin of this animal is much esteemed throughout the east, especially in China, where the seats of justice, on which the mandarins sit, are covered with it.

3. and 4. *F. Pardus* and *F. Leopardus*, the Panther and Leopard.

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Panther  
and Leo-  
pard.



Fera.

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the Species.

and the Leopard.—These species have frequently been confounded, and we mention them together for the sake of marking their distinguishing characters. They are usually distinguished by the form of the spots; those on the panther having commonly a central spot in each circle, while in those of the leopard this is usually wanting. This distinction, however, by no means holds universally, and the animals are better distinguished by their general shade of colour, and by their size. The panther is of a darker colour, and larger than the leopard. After all, the distinction is by no means so strongly marked that we can always discriminate between them, and perhaps they should rather be considered as varieties of the same species. In manners and disposition they nearly resemble the tiger, yet the leopard is generally considered as less fierce than the panther. Both are found in Africa, especially about the river Senegal. It was supposed that they were to be met with in America, but this appears to be a mistake.

81  
Cat.  
Fig. 34.

16. *F. Catus*, Common Cat.—This animal is found wild in several parts of the north of Europe, and is so formidable, that it may be called the *European tiger*. It is three or four times as large as the house cat; the head larger, and the face flatter. The teeth and claws tremendous; its muscles very strong, as being formed for rapine; the tail is of a moderate length, but very thick and flat, marked with alternate bars of black and white, the end always black; the hips and hind part of the lower joints of the leg, are always black; the fur is very soft and fine. The general colour of these animals is of a yellowish white, mixed with a deep gray. These colours, though they appear at first sight confusedly blended together, yet on a close inspection will be found to be disposed like the streaks on the skin of the tiger, pointing from the back downwards, rising from a black list that runs from the head along the middle of the back to the tail.

It is the fiercest and most destructive beast we have, making dreadful havock among our poultry, lambs, and kids. It inhabits the most mountainous and woody parts of these islands, living mostly in trees, and feeding only by night. It multiplies as fast as our common cats; and often the females of the latter will quit their domestic mates, and return home pregnant by the former.

Mr Bingley informs us, that at Barnborough, a village between Doncaster and Barnsby, in Yorkshire, there is a tradition extant of a serious contest that once took place between a man and a wild cat. The inhabitants say that the fight commenced in an adjacent wood, and that it was continued from thence into the porch of the church. We do not recollect in what manner it is reported to have begun; they, however, tell us, that it ended fatally to both combatants, for each died of the wounds he received. A rude painting in the church commemorates the event; and as in many similar traditions, the accidentally natural red tinge of some of the stones has been construed into bloody stains, which all the properties of soap and water have not been able to efface\*.

\* Bingley's  
*Animal  
Biography*,  
vol. i.  
p. 281.

They are taken either in traps, or by shooting: in the latter case it is very dangerous, only to wound them; for they attack the person who injured them, and have strength enough to be no despicable enemy.

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Wild cats were formerly reckoned among the beasts of chase, as appears by a charter of Richard II. to the abbot of Peterborough, giving him leave to hunt the hare, fox, and wild cat; and in much earlier times it was also the object of the sportsman's diversion.

The domestic cat is so well known as to render a description of it unnecessary. It is an useful but generally a deceitful domestic; active, neat, sedate, intent on its prey. When pleased, purrs and moves its tail. When angry, spits, hisses, and strikes with its foot. When walking, it draws in its claws; it drinks little; is fond of fish; its urine is corrosive; it buries its dung; it washes its face with its fore foot (Linnaeus says at the approach of a storm); the female is remarkably salacious; a piteous, squalling, jarring lover. Its eyes shine in the night; its hair when rubbed in the dark emits electric sparks; it is even proverbially tenacious of life; always lights on its feet; is fond of perfumes, as *marum*, *cat-mint*, *valerian*, &c.

The cat usually lives from 6 to 10 years. A friend of ours had a cat that lived 18 years.

The female brings forth twice, and sometimes thrice, a year. The period of her gestation is fifty-five or fifty-six days, and she generally produces 5 or 6 at one litter. She conceals her kittens from the male, lest he should devour them, as he is sometimes inclined; and, if apprehensive of being disturbed, will take them up in her mouth, and remove them one by one to a more secure retreat. Even the female herself, contrary to the established law of nature, which binds the parent to its offspring by an almost indissoluble tie, is sometimes known to eat her own young the moment she has produced them.

Instances of such conduct in the female cat are, however, very rare, and few mothers exhibit more tenderness or greater attachment to their young. The assiduity with which she attends them, and the pleasure she seems to take in witnessing their playful tricks, are extremely amusing. She has also been known, not only to suckle kittens belonging to other cats, but even the young of such animals as are generally objects of prey to her kind. A very extraordinary example of this is recorded by Mr White, in his *Natural History of Selborne*, in a cat belonging to a friend of his.

"My friend (says Mr White) had a little helpless leveret brought to him, which the servants fed with milk from a spoon, and about the same time his cat kittened, and the young were dispatched and buried. The hare was soon lost, and was supposed, as with most foundlings, to have been killed by some dog or cat. However, in about a fortnight, as the master was sitting in his garden, in the dusk of the evening, he observed his cat, with tail erect, trotting towards him, and calling with little short inward notes of complacency, such as they use towards their kittens, and something gamboling after, which proved to be the leveret, that the cat had supported with her milk, and continued to support with great affection.—Thus was a granivorous animal nurtured by a carnivorous and predacious one!

"This strange affection was probably occasioned by that desiderium, those tender maternal feelings which the loss of her kittens had awakened in her breast; and by the complacency and ease she derived to herself from the procuring of her teats to be drawn; which were



too much distended with milk; from habit, she became as much delighted with this foundling as if it had been her real offspring.

“A boy (says the same gentleman) had taken three young squirrels in their nest. These small creatures he put under a cat who had lately lost her kittens, and finds that she nurses and suckles them with the same assiduity and affection as if they were her own offspring.

“So many people went to see the little squirrels suckled by a cat, that the foster-mother became jealous of her charge, and in pain for their safety, and therefore hid them over the ceiling, where one died. This circumstance shewed her affection for these foundlings, and that she supposed the squirrels to be her own young.”

The cat is usually stigmatized as an ungrateful animal, incapable of attachment to her master. There are, however, not wanting instances that shew this character to be unmerited. Mr Pennant, in his history of London, tells us that Henry Wriothsley earl of Southampton, the friend and companion of the earl of Essex in his fatal insurrection, having been some time confined in the tower, was one day surpris'd by a visit from his favourite cat, which, says tradition, reached its master by descending the chimney of his apartment.

The following anecdote affords a striking example, both of the sagacity of this animal, and of its grateful remembrance of those with whom it had been accustomed to live. A physician of Lyons was, in July 1800, requested to inquire into a murder that had been committed on a woman of that city. In consequence of this request he went to the habitation of the deceased, where he found her extended lifeless on the floor and weltering in her blood. A large white cat was mounted on the cornice of a cupboard, at the far end of the apartment, where he seemed to have taken refuge. He sat motionless, with his eyes fixed on the corpse, and his attitude and looks expressing horror and affright. The following morning he was found in the same station and attitude; and when the room was filled with officers of justice, neither the clattering of the soldiers arms, nor the loud conversation of the company, could in the least degree divert his attention. As soon, however, as the suspected persons were brought in, his eyes glared with increased fury, his hair bristled, he darted into the middle of the apartment, where he gazed for a moment at them, and then retreated precipitately under the bed. The countenances of the assassins were disconcerted, and they were now, for the first time during the whole course of the horrid business, abandoned by their atrocious audacity.

Our ancestors seem to have had a high sense of the utility of this animal. That excellent prince Howel the good, did not think it beneath him to include that of the cat, and to describe the qualities it ought to have. The price of a kitten before it could see, was to be a penny; till it caught a mouse, 2d; when it commenced mouser, 4d. It was required besides, that it should be perfect in its senses of hearing and seeing, be a good mouser, have the claws whole, and be a good nurse; but if it failed in any of these qualities, the seller was to forfeit to the buyer the third part of its value. If any one stole or killed the cat that guarded the prince's granary, he was to forfeit a milch ewe, its

fleece and lamb, or as much wheat as, when poured on the cat suspended by its tail, would form a heap high enough to cover the tip of the former. This is an evidence of the simplicity of ancient manners; and it almost proves to a demonstration that cats are not aborigines of these islands, or known to the earliest inhabitants. The large price set on them, and the great care taken of the improvement and breed of an animal that multiplies so fast, are almost certain proofs of their being little known at that period.

A beautiful variety of the cat, the *Cat of Angora*, is described in an interesting manner by M. Sonnini in his Travels in Egypt, vol. i.

#### Genus 17. VIVERRA. WEASELS.

82  
Viverra.

Six sharp cutting teeth; canine teeth longer than the former. Tongue smooth in some species, in others furnished with reversed prickles. Body of a lengthened form.

The last circumstance mentioned in the generic character is one of the principal characteristics of this tribe, most of the species being remarkable for the length and slenderness of their form. The visage is usually sharp, the feet short, and the tail in most species long. Many of the species are notorious for a most abominable odour, with which they are capable of annoying their enemies when attacked or disturbed. If the accounts given of this odious vapour are not aggravated by the abhorrent recollection of those who have experienced its effects, every other ill smell which nature can produce, is surpassed by the overpowering fœtor of these extraordinary quadrupeds. In consequence of this dreadful emanation, the dogs are said to relinquish the pursuit, and the men to fly with precipitation from the tainted spot; but if unfortunately the least particle of the fluid which the animal commonly discharges at this juncture, should happen to light on the clothes of the hunter, he becomes a general nuisance wherever he appears, and is obliged to divest himself of his dress, and practise all the arts of ablution, in order to be restored to the society of mankind. They are generally harmless animals, live on rabbits, birds, and vermin, and many of them are extremely useful in destroying rats and mice, and catching rabbits. The skins of many of the species form a valuable article of the fur trade.

There are about 43 species that have been distinguished by specific characters.

1. *V. Ichneumon*, Ichneumon. Gray, with distant thumbs, and tail tapering gradually from a thick base, and tufted at the end.—2. *V. Casfra*, Caffarian W. Yellowish brown, with tail gradually tapering from a thick base, and black at the tip.—3. *V. Zenik*, Zenik. Gray, four-toed, with 10 transverse black bands, and deep chestnut-coloured tail, black at the tip.—4. *V. Surikatta*, Surikate. Gray brown, with long moveable snout, four-toed feet, and rusty black-tipped tail.—5. *V. Nafua*, Coatimondi. Reddish, tail marked with white rings, and a lengthened moveable snout.—6. *V. Vulpecula*, Coesse. Dark chestnut, with lengthened snout.—7. *V. Striata*, Striated W. Blackish, with five parallel white stripes on the back.—8. *V. Conepati*, Conepati. Blackish, with two white lines on the back extending to the tail.—9. *V. Mephitica*, Mephitic W. or Chinche. Brown, with white back,



Ferae.

back, marked with a longitudinal black stripe.—10. *V. Chinge*, Chinge. Black, with a changeable cast of blue, and a row of white spots from head to tail.—11. *V. Zorilla*, Zorilla. Variegated black and white.—12. *V. Mapurito*, Mapurito. Black, with white band from the forehead to the middle of the back, and no external ears.—13. *V. Vittata*, Grison. Blackish, with a broad white band from the forehead to each shoulder.—14. *V. Quafge*, Quafge. Chestnut, yellowish beneath, with lengthened moveable snout, and ring-marked tail.—15. *V. Zeylanica*, Ceylonese W. Ash, mixed with gray, whitish beneath.—16. *V. Capensis*, Cape W. Black, with gray back, edged with white.—17. *V. Mellivora*, Honey W. Back ash, with a black lateral band; belly black; claws long.—18. *V. Civetta*, Civet. Ash-coloured, spotted with black, with chestnut-coloured mane, and dusky spotted tail.—19. *V. Zibetha*, Zibet. Ash gray, waved with black and ring-marked tail.—20. *V. Hermaphrodita*, Three-striped W. Dark gray, with long black-tipped tail, and three black stripes on the back.—21. *V. Genetta*, Genet. Fulvous gray; body spotted with black, and ring-marked tail.—22. *V. Fossa*, Fossane. Ash-coloured, spotted with black, and ring-marked tail.—23. *V. Caudivoluta*, Prehensile W. Yellow, shaded with dusky, and prehensile tail.—24. *V. Fasciata*, Fasciated W. Gray, with six longitudinal black bands.—25. *V. Malaccensis*, Malacca W. Gray, with longitudinal black stripes on the neck and rump, and round black spots on the sides. 26. *V. Tigrina*, Tigerine W. Yellowish gray, with brown variegations, ring marked black-tipped tail, and a black stripe along the back.—27. \**V. Foina*, Martin. Blackish, fulvous, with white throat.—28. \**V. Martes*, Pine Martin. Blackish, fulvous, with yellow throat.—29. *V. Zibellina*, Sable. Blackish, fulvous, with gray throat.—30. *V. Pifcator*, Fisher W. Back, belly, feet and tail black; sides brown, and face subcinereous, with black nose.—31. \**V. Putorius*, Pole-cat. Blackish, tawny, with whitish muzzle and ears.—32. *V. Furo*, Ferret. Yellow, with red eyes.—33. \**V. Vulgaris*, Common W. Pale-reddish brown, white beneath.—34. \**V. Erminia*, Stoat. Tip of the tail black.—35. *V. Galera*, Galera. Entirely brown.—36. *V. Barbara*, Guiana W. Black, with a white trilobate spot below the throat.—37. *V. Quadricolor*, White-cheeked W. Yellow, cinereous, with black head, legs, and tail, bright yellow throat, and white cheeks and chin.—38. *V. Canadensis*, Pezan. Blackish fulvous, with white pectoral spot.—39. *V. Sarmatia*, Sarmatian W. Variegated above with brown and yellow.—40. *V. Sibirica*, Siberian W. Fulvous, with extremely hairy feet.—41. *V. Touan*, Touan. Ferruginous, white beneath, with the tail naked towards the tip.—42. *Quiqui*, Quiqui. Brown, with wedge-shaped snout.—43. *V. Cuja*, Cuja. Black, with turned-up snout.—The following are enumerated by Dr Shaw, without character, viz. 44. Gray-headed W.—45. South American W.—46. Woody W.—47. Musky W. and 48. Slender-toed W.

83  
Ichneumon.  
Fig. 35.

1. *V. Ichneumon*, the Ichneumon.—Of this species there are two distinct varieties found in different countries, varying chiefly as to size, the larger being commonly about 40 inches from the nose to the tip of the tail, while the lesser scarcely exceeds two-thirds of that length.

The greater variety has also the tail slightly tufted at the end. In other respects they bear a near resemblance to each other. They are commonly of a pale reddish gray colour, each hair being mottled with brown, so as to make the whole body appear speckled. The eyes are of a bright red or flame colour; the ears rounded and almost naked; the nose long and slender, and the body rather thicker than in most other species of this genus. The tail is very thick at the base, and the hair on the whole animal is hard and coarse.

The larger ichneumon is found chiefly in Egypt, and in some other parts of Africa; the smaller seems confined to the East Indies. In their wild state these animals frequent the banks of rivers, and, during floods, approach the highest grounds and inhabited places in quest of prey. They are said to swim and dive occasionally, and are able to continue under water for a considerable time. The voice of the ichneumon is very soft, resembling a murmur; but it is said never to exert it unless struck or irritated. When going to sleep, it rolls itself up like a ball, and is not easily awakened.

Both varieties, but especially the Egyptian, are great enemies to serpents, rats, and other noxious animals; and the Indian variety attacks with great eagerness that dreadful snake, the *cobra-di capello*. Hence they are held in great esteem both by the Egyptians and the natives of India, and are kept like our dogs and cats as domestic animals. It is easily tamed, is very active, and springs with great agility on its prey. It will glide along the ground like a serpent, and seem as if without feet. It sits up like a squirrel, and eats with its fore feet; catches any thing that is flung to it. It is a great enemy to poultry, and will feign itself dead till they come within its reach. It is said to be extremely skilful in seizing the serpents by the throat, in such a manner as to avoid receiving any injury. Lucan has beautifully described the same address of this animal in conquering the Egyptian asp.

M. d'Obsonville had an ichneumon very young, which he brought up; he fed it at first with milk, and afterwards with baked meat, mixed with rice. It soon became tamer even than a cat; for it came when called, and followed him, though at liberty, into the country. One day he brought to the animal a small water serpent alive, being desirous to know how far his instinct would carry him against a being with which he had been hitherto unacquainted. His first emotion seemed to be astonishment mixed with anger, for his hair became erect; but an instant after, he slipped behind the reptile, and with a remarkable swiftness and agility leaped upon its head, seized it, and crushed it between his teeth. This essay, and new aliment, seemed to have awakened in him his innate and destructive voracity, which till then had given way to the gentleness he had acquired from his education. M. d'Obsonville had about the house several curious kinds of fowls, among which the ichneumon had been brought up, and which before the above adventure he had suffered to go and come unmolested and unregarded; but in a few days after, when he found himself alone, he strangled every one of them, ate a little, and, as appeared, had drunk the blood of two.

The ichneumon is said to be short-lived, but grows very rapidly. They have been brought into our climates,



History of  
the Species.84  
Civet.  
Fig. 36.

mates; but cannot, without great difficulty, be either reared or preserved. They appear much incommoded by frosty weather, and soon fall victims to the change of climate.

18. *V. Civetta*, Civet, or Civet Cat.—This animal is about two feet long from nose to tail, and the tail measures about 14 inches. The ground colour of the body is a yellowish gray, marked with large blackish or dusky spots, disposed in longitudinal rows on each side, and sometimes intermixed with a tinge of rusty colour. The hair is coarse, and stands up along the top of the back like a sort of mane; the ears are short and rounded; the eyes of a bright sky blue; the tip of the nose, sides of the face, chin, breast, lips, and feet, are black; the remainder of the face and part of the sides of the neck of a yellowish white; and from each ear there are three black stripes terminating at the throat and shoulders. The tail is generally black, but is sometimes marked with pale spots near its base. At a little distance below the tail there is a large, double, glandular receptacle, which contains the secretion called *civet*, employed as a perfume. See *CIVET*.

This animal is found in several parts of Africa and India. It is of a wild disposition, living, like most of its kind, on birds and the smaller quadrupeds. It is said to be very voracious, and will sometimes roll itself for some time on its food before it eats it. It is very destructive to poultry, which it seizes whenever it can steal into a farm yard. It is very prolific, active, and nimble, jumping like a cat, and running very nimbly. Its voice is stronger than that of a cat, and somewhat resembles the cry of an enraged dog. It is capable of being tamed, and is usually kept by perfumers at Amsterdam and some other places for the sake of the *civet*.

Thefe animals, in a state of confinement, are placed, from time to time, in strong wooden cages or receptacles, so constructed as to prevent the creature from turning round, and biting the person employed in collecting the *civet*: this operation is said to be performed twice a week, and is done by scraping out the civet with a small spoon. The quantity usually collected at each time amounts to about a dram.

85  
*Foinea*,  
Martin.  
Fig. 37.

27. *V. Foinea*, the Martin.—This is an animal of a very elegant appearance. It is about 18 inches long from nose to tail, and its tail is about 10 inches. It is of a blackish tawny colour, with a white throat, and a dusky brown belly. The tail is bushy, and darker than the rest of the body; the ears are pretty large and rounded, and the eyes are very lively.

It is found in most parts of Europe, and is not uncommon in Britain. It inhabits woods and fields, and preys on birds and other small animals. It breeds in the hollows of trees, and brings forth from three to five young at a birth.

The martin attacks pheasants when at roost, and makes great havoc among them. For this reason game-keepers are careful to set traps for them, which are baited with a piece of pheasant or wood-pigeon. Mr Daniel recommends the following mode of catching them, in parks or places that are pales in. As they constantly run to the pales and posts to dry themselves in the morning, have a groove cut in some of the posts or gate-posts where they run, sufficient to contain a

strong hawk or rat trap; the trap must be set in this groove without a bait; in leaping upon the place they are sure to be taken; a small chain should be fixed to the trap and fastened to the post. The skin of the martin affords a valuable fur.

29. *V. Zibellina*, the Sable.—This animal is very similar in its general appearance to the martin, but its fur is finer, and of a deep glossy brown; the hair being ash-coloured at the root, and black at the tips. The tail is also much shorter than in the martin.

It inhabits the northern parts of Asia, where it lives in holes under ground, especially below the roots of trees. In manners and disposition it greatly resembles the martin.

The skins of fables form one of the most valuable articles of the fur trade; and for these the animals are hunted with great eagerness.

The hunting is usually carried on by criminals confined to the desert regions of Siberia, or by soldiers sent thither for that purpose, who generally remain there for several years. Both are obliged to furnish a certain quantity of furs. They shoot with a single ball, to injure the skin as little as possible. They frequently take them in traps, or kill them with blunt arrows. As an encouragement to the hunters, they are allowed to share among themselves whatever skins they take above the allotted number; and this, in a few years, amounts to a considerable premium.—The hunters form themselves into small troops, each of which is directed by a leader of their own choosing.

The season of hunting is from November to February; for at that time the fables are in the highest perfection. Those caught at any other time of the year are full of short hairs, and are sold at inferior prices. The best skins are such as have only long hair, which is always black, and of a glossy brightness. Old furs do not retain their gloss.—Both the Russians and Chinese have a method of dyeing their furs; but the dyed fables are easily discovered, having neither the smoothness nor the brightness of the natural hair.

29. *V. Putorius*, the Polecat, Fitchet, or Fomart. —The length of this animal is about 17 inches, exclusive of the tail; that of the tail six. Its shape is long and slender; the nose sharp-pointed, and the legs short: in fine, admirably formed for insinuating itself into the smallest holes and passages, in search of prey. It is very nimble and active, runs very fast, will creep up the sides of walls with great agility, and spring with vast force. In running, the belly seems to touch the ground; in preparing to jump, it arches its back, which assists it greatly in that action. The ears are short, rounded, and tipped with white; the circumference of the mouth is wholly of a chocolate colour, almost black. The sides are covered with hairs of two colours, the ends of which are of a blackish hue, like the other parts; and the middle of a full tawny colour.

The toes are long, and separated to the very origin; the tail is covered with pretty long hair.

The polecat is very destructive to young game of all kinds, and to poultry: it generally resides in woods, or thick brakes, burrowing under ground, forming a shallow retreat, about two yards in length, which commonly ends, for its security, among the roots of some large trees. It will sometimes lodge under hay ricks,

and

Ferre.

86  
*Zibellina*,  
Sable.

87

*Putorius*,  
Polecat,  
or Fomart.



**Feræ.** and in barns; in the winter it frequents houses, and makes a common practice of robbing the dairy of the milk. It also makes great havock in warrens.

Though the smell of the polecat, when alive, is rank and disagreeable, even to a proverb, yet the skin is dressed with the hair on, and used as other furs for tip-pets, &c. and is also sent abroad to line clothes.

Mr Bewick mentions an extraordinary method which this animal sometimes practises to procure itself subsistence. During a severe storm, one of these animals was traced in the snow from the side of a rivulet to its hole, at some distance from it. As it was observed to have made frequent trips, and as other marks were to be seen in the snow which could not be easily accounted for, it was thought a matter worthy of greater attention. Its hole was accordingly examined, the fowart taken, and 11 fine eels were discovered to be the fruits of its nocturnal excursions. The marks in the snow were found to have been made by the motion of the eels in the creature's mouth.

<sup>88</sup>  
**Furo, Ferret.**  
Fig. 38.

30. *V. Furo*, the Ferret.—This animal is about 14 inches long, and its tail about five. Its nose is sharper than that of the polecat; its ears are round, eyes red and fiery, and the colour of its whole body a very pale yellow. It breeds twice in the year, unless it devours its offspring, as it sometimes does as soon as brought forth; it then has three litters. The ferret goes with young six weeks, and has generally six or seven young, which are blind for a month.

It is a native of Africa, and was originally brought into Spain, to free that country from the multitudes of rabbits with which it was overrun.

After two months the young are fit for service in catching rabbits; they should be kept in tubs, or small boxes, where they can be supplied with plenty of clean straw, as they are offensive and smell strong; before you use, do not feed them, for with their bellies full they will not hunt, but sleep in the burrows for hours. The ferret is the natural enemy to the rabbit, inasmuch, that if a dead rabbit be laid before a ferret, it instantly seizes upon it, although it has never seen one before; if shewn a living rabbit, the ferret is still more eager, fastens on the neck, winds itself round and sucks the blood until satiated. The ferret, however, is apt to lose its savage nature, unless the breed is crossed with the polecat, which the warreners frequently do, and the produce is of a much darker colour, partaking of that of the fire.

<sup>89</sup>  
**Vulgaris, Weasel.**

31. *V. Vulgaris*, Common Weasel.—This is one of the smallest of the tribe; its general length being about seven inches, with a tail little more than two inches long. It is usually of a reddish brown on the back, sides, and legs, white on the throat and belly, and below the corners of the mouth on each jaw is a spot of brown. The ears are small and rounded; the mouth furnished with whiskers, and the eyes are black.

The female brings forth in the spring, and produces four or five at a birth. Of these she is very careful, and, as we are told by Aldrovandus, will carry them about from place to place, when she suspects that they will be stolen from her.

The food of this animal is similar to that of the other species, and it is very destructive to young birds, poultry, and rabbits. Its favourite food seems to be the field mouse. It is also very fond of eggs. It is exceed-

ingly active, and will run up the sides of walls with such facility, that scarcely any place is secure from it; and its body is so small, that there are few holes through which it cannot creep.

It is found in most of the temperate parts of Europe, is very common in this island, and is also occasionally met with in Barbary. It inhabits the cavities below the roots of trees, and the banks of rivulets, from which it sallies out in quest of its prey.

The weasel was supposed by Buffon to be untameable; but it appears from a communication made to him by a lady, and published in his 7th supplemental volume, that it may be rendered very gentle and domestic. The account is very amusing, but we have not room for it here. It is given by Dr Shaw, vol. i. p. 521. and Mr Bingley, vol. i. p. 314.

Genus 18. LUTRA. OTTERS.

<sup>90</sup>  
Lutra.

Teeth as in the former genus. Feet webbed.

Linnæus formed two genera of the animals which are usually called weasels, viz. *viverra* and *mustela*, in the latter of which he comprised the otters. Mr Pennant and Dr Shaw have united the *mustelæ* to the *viverræ*, and have made a new genus of the otters, to which Dr Shaw gives the name of *lutra*.

There are eight species, viz.

1. \* *L. Vulgaris*, Common O. Brown, with naked feet, and tail half as long as the body.—2. *L. Lutreola*, Smaller O. Blackish tawny, with hairy feet, equal toes, and white muzzle.—3. *L. Marina*, Sea O. Black, with hairy feet, and very short tail.—4. *L. Brasiliæna*, Brazilian O. Black, with yellow throat.—5. *L. Saricovienna*, Saricovienne O. Gray, spotted with black.—6. *L. Gracilis*, Slender O. Brown, with extremely slender body.—7. *L. Vison*, Vison O. Body entirely of a deep chestnut colour.—8. *L. Felina*, Chinchemin O. Of the shape and appearance of a cat.

<sup>91</sup>  
1. *L. Vulgaris*, Common O.—The usual length of *Vulgaris*, this animal is about two feet from nose to tail, and the tail is about 16 inches long. The head and nose are broad and flat; the eyes are small, but very brilliant, and are placed nearer to each other than in most quadrupeds, which gives the otter a singular appearance, not unlike an eel. The ears are extremely short; the opening of the mouth small; the lips very muscular, capable of being brought very close together; and the nose and corners of the mouth are furnished with long whiskers. The legs are remarkably short, but very muscular; and the joints are articulated so loosely, that the animal can bring its legs on a line with its body, and use them as fins for swimming. Its fur is of a deep brown colour.

Otters are found in most parts of Europe, and are met with occasionally in Britain. They inhabit the banks of rivers, and their principal food consists of fish, though they will sometimes attack poultry and the smaller quadrupeds. They are said to be as destructive in a fishpond as a polecat is in a henhouse.

The otter makes its nest in some retired spot, where it can have an easy and secure access to the water, to which it immediately flies on the least alarm; and as it is very active, and swims with great rapidity, it is not easily taken. This animal is very nice, and will eat no fish but such as are perfectly fresh. As soon as he catches



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the Species.

catches a fish, he drags it on shore, and devours it as far as the vent; but unless extremely pressed with hunger, he always leaves the rest. It swims against the stream in rivers, and may sometimes be seen in concert with a companion hunting the salmon. It has been supposed that the otter never goes out to sea, but this appears to be a mistake, for they have been seen about the Orkneys, hunting sea fish, especially cod.

When taken young, the otter is easily tamed, and may be made to catch fish for its master's use. The usual way of teaching them is, first to make them fetch and carry like a dog; they have then given them a truss stuffed with wool, in the shape of a fish, which they are accustomed to take in their mouths, and drop at command. From this they proceed to real fish, which are thrown dead into the water, whence they are taught to fetch it; and thus by degrees they are made to catch living fish. Mr Bewick informs us that a man near Wooler had a tame otter, which followed him wherever he went. He frequently carried it to fish in the river, and, when satiated, it never failed returning to its master. One day, in the absence of his master, being taken out by his son to fish, instead of returning as usual, it refused to come at the accustomed call, and was lost. The father tried every means to recover it; and after several days search, being near the place where his son had lost it, and calling it by its name, to his inexpressible joy it came creeping to his feet, and shewed many marks of affection and firm attachment. Its food, exclusive of fish, consisted chiefly of milk and hasty pudding.

Some years ago, one James Campbell, near Inverness, had a young otter, which he brought up and tamed. It would follow him wherever he chose, and if called on by its name, would immediately obey. When apprehensive of danger from dogs, it sought the protection of its master, and would endeavour to fly into his arms for greater security. It was frequently employed in catching fish, and would sometimes take eight or ten salmon in a day. If not prevented, it always made an attempt to break the fish behind the fin next to the tail; and as soon as one was taken away, it immediately dived in pursuit of more. When tired, it would refuse to fish any longer, and was then rewarded with as much fish as it could devour. Being satisfied with eating, it always curled itself round, and fell asleep, in which state it was carried home. The same otter fished as well in the sea as in the river, and took great numbers of codlings and other fish. Its food was generally fresh fish, and sometimes milk. What is still more extraordinary, the otter has been made to hunt fish along with dogs, who never gave him the smallest molestation, though accustomed to hunt other otters.

The flesh of the otter is rank and disagreeable, and partakes so much of the nature of fish, that by the Roman Catholic religion it is allowed to be eaten on fast days; and Mr Pennant tells us, that he saw in the kitchen of the Carthusian convent, near Dijon, an otter preparing for the dinner of that religious order, who by their rules are prohibited during their whole lives the eating of flesh.

The sea otter is chiefly valuable on account of its fur, which is thick and long, generally of a shining black colour, but sometimes of a silvery hue. It is hunted

for its furs in Kamtschatka, and the opposite coasts of America.

Genus 19. *URSUS*. BEARS.

Six front teeth in both jaws; the two lateral of the lower jaw longer than the rest, and lobed, with smaller or secondary teeth at their inner bases. Canine teeth solitary. Grinders five or six on each side, the first very near the canine teeth. Tongue smooth. Snout prominent. Eyes furnished with a meditating membrane.

The individuals of this species have not many circumstances in common, except those mentioned in the generic character. The soles of their feet are long, and extend to the heel, from which circumstance they tread very firmly. Their claws are long and sharp, and they are thus enabled to climb trees with great dexterity, either in search of prey, or to escape from their enemies. Some of the species use their fore paws as hands.

There are about nine species, which are thus distinguished.

1. *U. Arctos*, Brown Bear. Blackish brown, with abrupt tail.—2. *U. Americanus*, American B. Black, with rusty cheeks and throat.—3. *U. Marinus*, White or Polar Bear. White, with elongated neck and head, and abrupt tail.—4. *U. Gulo*, Glutton. Reddish brown, with tail of the same colour, and the middle of the back black.—5. *U. Luscus*, Wolverine. Rusty, with dusky snout, and forehead and lateral band of the body whitish.—6. *U. Lotor*, Raccoon. Tail ring-marked, and a black band across the eyes.—7. *U. Meles*, Badger. Tail unmarked; body gray above, black below, and a longitudinal black band through the eyes and head.—8. *U. Labradorius*, American Badger. Pale yellowish gray, with the throat and belly white, and head striped with black.—9. *U. Indicus*, Indian Badger. White above, black beneath.

1. *Ursus Arctos*, Common or Brown Bear.—There is a considerable variety of colour in different individuals of this species, according to the climate it inhabits. The prevailing colour is a blackish brown, but they are sometimes seen gray, or even quite white. His general appearance is very clumsy; his body thick, legs very strong, head round, neck short, and he is covered with a very long thick fur.

He is a native of almost all the northern parts of Europe and Asia, and is said to be found in some of the Indian islands, especially Ceylon. He inhabits woods and unfrequented forests, where he passes the greatest part of winter in a state of repose and abstinence, coming out only at distant intervals, and again concealing himself till the approach of spring. He lives chiefly on vegetables, such as roots and fruits; but when pressed by hunger, he becomes fierce and ravenous, and will attack animals of almost every description. He is said to be particularly fond of honey, in search of which he climbs trees, in order to get at the nests of wild bees. He will catch and devour fish, and occasionally frequents the banks of rivers for that purpose. It is observed that the brown and black varieties differ somewhat in their choice of food, the former living almost entirely on vegetables, while the latter frequently attack cattle, lambs, and kids, the blood of which they suck, like many of the cat and weasel tribe.

Feræ.  
92  
Ursus.

93  
*Arctos*,  
Common  
Bear.  
Fig. 40.



Ferz. The females bring forth two young at a birth. It was formerly supposed that these cubs were nearly shapeless masses, that were gradually licked and fashioned into shape by the parent, whence the expression of an *unlicked cub*, for an awkward-ill manner'd booby. This has long been proved to be a vulgar error. Though not shapeless, the cubs are, however, usually blind for about a month. The bear is an animal that is extremely useful to the inhabitants of the north of Europe; his flesh is nearly as good as pork, and makes excellent bacon. His skin is used for muffs, tippets, and other articles of dress, and the fat is held in great estimation by the inhabitants of Kamtschatka as a very savoury and wholesome nourishment.

When tamed, it appears mild and obedient to its master, but is not to be trusted without the utmost caution.—It may be taught to walk upright, to dance, to lay hold of a pole with its paws, and perform various tricks to entertain the multitude, who are highly pleased to see the awkward measures of this rugged creature, which it seems to suit to the sound of an instrument, or to the voice of its leader. But to give the bear this kind of education, it must be taken when young, and early accustomed to restraint and discipline. An old bear will suffer neither, without discovering the most furious resentment; neither the voice nor menace of his keeper has any effect upon him; he equally growls at the hand that is held out to feed, as at that which is raised to correct him.

The excessive cruelties practised upon this poor animal, in teaching it to walk erect, and regulate its motions to the sound of the flageolet, are such as make sensibility shudder. Its eyes are put out, and an iron ring being put through the cartilage of the nose, to lead it by, it is kept from food, and beaten, till it yield obedience to the will of its savage leaders. Some of them are taught to perform by setting their feet upon hot iron plates, and then playing to them whilst in this uneasy situation. It is truly shocking to every feeling mind to reflect, that such cruelties should be exercised upon any part of the brute creation by our fellow men. That they should be rewarded by numbers of unthinking people, who crowd around them to see the animal's rude attempts to imitate human actions, is not to be wondered at; but it is much to be wished, that the timely interference of the magistrate would prevent every exhibition of this kind, that in Britain at least, we might not be reproached with tolerating practices so disgraceful to humanity.

One of these animals, presented to the prince of Wales a few years ago, was kept in the tower. By the carelessness of the servant, the door of his den was left open, and the keeper's wife happening to go across the court at the same time, the animal flew out, seized the woman, threw her down, and fastened upon her neck, which he bit, and without offering any farther violence, lay upon her, sucking the blood out of the wound. Resistance was in vain, as it only served to irritate the brute, and she must inevitably have perished, had not her husband luckily discovered her situation. By a sudden blow he obliged the bear to quit his hold, and retire to his den, which he did with great reluctance, and not without making a second attempt to come at the woman, who was almost dead through fear and loss of blood. It is somewhat remarkable, that

whenever it happened to see her afterwards, it always growled, and made most violent struggles to get out to her. The prince, upon hearing of the circumstance, ordered the bear to be killed.

A few years ago, a man exhibited at Edinburgh a bear, which it was discovered he chiefly fed with dead bodies taken from the burying-grounds. On complaint being made to the magistrates, they ordered the bear to be shot. What punishment was inflicted on the man we do not recollect.

3. *U. Maritimus*, the White or Polar Bear.—This species is considerably larger and longer than the common bear, having been sometimes found 12 feet in length. It is exceedingly strong and fierce, and its body is covered with a very long, thick, white fur. It inhabits the coldest regions of the north, and is sometimes carried on floating ice as far to the southward as Newfoundland. In winter it buries itself in the snow, where it lies in a torpid state; but in summer it takes up its residence in the cliffs and caverns of the numerous ice islands that are found in those high latitudes. Here it brings forth its young, usually one or two at a birth. The parent is exceedingly tender and affectionate to her young, of which the following anecdote affords a striking and interesting example.

While the *Carcafe* frigate, which went out some years ago to make discoveries towards the north pole, was locked in the ice, early one morning the man at the mast-head gave notice that three bears were making their way very fast over the frozen ocean, and were directing their course towards the ship. They had, no doubt, being invited by the scent of some blubber of a sea-horse that the crew had killed a few days before, which had been set on fire, and drew out of the flames a part of the flesh of the sea-horse that remained unconsumed, and ate it voraciously. The crew from the ship threw great lumps of the flesh of the sea-horse, which they had still left upon the ice, which the old bear fetched singly, laid every lump before her cubs as she brought it, and dividing it, gave to each a share, reserving but a small portion to herself. As she was fetching away the last piece, they levelled their muskets at the cubs, and shot them both dead, and in her retreat they wounded the dam, but not mortally. It would have drawn tears of pity from any but unfeeling minds, to have marked the affectionate concern expressed by this poor beast in the dying moments of her expiring young. Though she was herself dreadfully wounded, and could but just crawl to the place where they lay, she carried the lump of flesh she had fetched away, as she had done others before; tore it in pieces, and laid it before them; and when she saw that they refused to eat, she laid her paws first upon one, and then upon the other, and endeavoured to raise them up: all this while it was pitiful to hear her moan. When she found she could not stir them, she went off, and when she had got at some distance, looked back and moaned; and that not availing her to entice them away, she returned, and smelling round them, began to lick their wounds. She went off a second time as before, and having crawled a few paces, looked again behind her, and for some time stood moaning. But still, her cubs not rising to follow her, she returned to them again, and with signs of inexpressible fondness went round one, and round the other, pawing them, and moaning. Finding at last that they were cold.



cold and lifeless, she raised her head towards the ship, and uttered a growl of despair, which the murderers returned with a volley of musket balls. She fell between her cubs, and died licking their wounds.

The polar bear lives chiefly on fish, but sometimes attacks the seals. He in his turn becomes a prey to the inhabitants of the arctic regions, who eat the flesh, though it is very coarse, and use the skin for coverings of various kinds.

5. *U. Luscius*. Wolverine.—This, by most naturalists, is considered only as a variety of the glutton. It is a large animal, almost equalling the wolf in size. It is pretty common in the northern parts of North America, where it burrows under ground. It is a beast of prey, living on deer and similar animals. Though its pace is very slow, it has a very acute scent, is extremely strong, and possessed of great sagacity. It is said to be so fierce as to be a terror even to the wolves and bears; and its strength is so great, that it has been known to pull down a pile of immense logs of wood, in order to get at some provisions that had been hidden there, though some of the logs were as much as two men could carry. It is a great enemy to badgers and foxes.

It is hunted in North America for the sake of its skin.

7. *U. Meles*, The Badger.—This is an animal of a very clumsy make, being thick-necked and thick-bodied, with very short legs. His usual length from nose to tail is about two feet and a half, and the tail itself seldom exceeds six inches. His eyes are very small, ears short and rounded. The body is covered with long coarse hairs like bristles, that are of a dirty yellowish white next the root, black in the middle, and gray at the tips. The badger differs from most other animals in having his back of a lighter colour than his belly. He is exceedingly strong, especially about the legs and feet, which are formed for burrowing in the earth.

This animal is found in all the temperate parts of Europe and of Asia. It makes its habitation below ground, and is a very cleanly animal, so that when his retreat is desiled by any other animal, as the fox, he quits it for another. It seldom leaves its hole during the day, feeding only by night. Its principal food appears to consist of the smaller quadrupeds, as rabbits, birds, &c. though Mr Pennant will scarcely allow it to be a carnivorous animal. It is also said to be very fond of honey. It sleeps much during winter, confining itself like the bear, in a half torpid state.

The female brings forth three or four young, in the early part of summer.

Badgers were formerly distinguished into sow badgers and dog badgers, from the supposed resemblance of their heads to those animals, though we do not know of any with a head like that of swine, its usual appearance being that of the dog.

No animal has suffered more from vulgar prejudices than the badger: harmless in his nature, he seems to have had the character of ferocity given him, merely because he is a beast of great strength, and is furnished with strong teeth, as if formed to live by rapine; he is, however, found to be an animal perfectly inoffensive. Nature has denied the badger the speed requisite to escape its enemies, but has supplied it with such weapons of offence that scarcely any creature will attack;

few animals defend themselves better, or bite harder, when pursued; it soon comes to bay, and fights with great obstinacy; the badger is very tenacious of life, yet a small blow on the snout is mortal both to him and the otter. It is hunted with terriers, and its obstinate defence affords great diversion to those human brutes who are capable of finding pleasure in the torments of a harmless, inoffensive creature.

Its skin is used for pistol furniture, when dressed with the hair on; the hairs are made into brushes that are used by painters to soften their shades, and the flesh is said to make excellent bacon.

Genus 20. DIDELPHIS. *OPOSSUMS*.

Front teeth small and rounded; superior 10, the two middle ones longer; inferior eight, the two middle ones broader and very short; canine teeth long; grinders denticulated; tongue ciliated with papillæ; abdominal pouch (in most species) containing the teats.

This curious tribe of animals first became known to naturalists on the discovery of America, where only, most of the species are met with. They are principally distinguished by the extraordinary contrivance which nature has adopted for enabling most of the genus to secure their young, and which consists of a pouch or bag formed by a fold of the skin of the belly. Into this the young are received soon after birth, and are there suckled at teats within the bag, till they are able to shift for themselves. In some of these there are two or three distinct cavities that can be opened or shut at pleasure, by means of bones with which they are provided for that purpose. Some of the species carry their young on their backs, covering them with their tail.

This is a numerous genus, comprehending about 19 species.

1. *D. Virginiana*, Virginian O. Yellowish gray, with naked tail, and black, naked, rounded ears, edged with white.—
2. *D. Marsupialis*, Molucca O. Brown, with naked tail.—
3. *D. Cayapollin*, Mexican O. Brown, with tail longer than the body, and the eyes surrounded with a blackish border.—
4. *D. Brachyura*, Short-tailed O. With hairy tail; very short, naked ears, reddish body, and no pouch.—
5. *D. Brunii*, Javan O. Short naked tail, and long three-toed hind feet.—
6. *D. Orientalis*, Phalanger. Rusty white beneath, with blackish dorsal line; tail of the length of the body, and hairy almost to the middle, and the two middle toes of the hind feet united.—
7. *D. Cancrivora*, Cayenne O. Nearly naked; scaly tail almost the length of the body, and the nail of the thumbs flat.—
8. *D. Philander*, Philander. The tail hairy at the base, and with four teats in the abdominal pouch.—
9. *D. Murina*, Murine O. Tail half-naked, and six teats.—
10. *D. Dorfigera*, Merian O. Tail naked, hairy at the base, and the fore feet without claws.—
11. *D. Lemurina*, Lemurine O. Ash-coloured, tawny beneath, with cylindric, black, furry, prehensile tail.—
12. *D. Obesula*, Porcupine O. Subferruginous, whitish beneath, with longish tail; the fore feet five-toed, with small exterior claws; the hind feet four-toed, with two interior toes united.—
13. *D. Petaurus*, Petaurine O. Blackish-gray, tinged with ferruginous; whitish beneath



<sup>Feræ.</sup> beneath, with lateral flying membrane, and long, sub-cylindric, very villose tail.—15. *D. Sciurea*, Squirrel O. Pale gray, snow-white beneath, with lateral flying membrane, and very villose prehensile tail.—15. *D. Macrourh*, Long-tailed O. Ash-coloured, whitish beneath, with lateral flying membrane, and very long black tail.—16. *D. Pygmæa*, Pygmy O. With lateral flying membrane, and flatly pinnated linear tail.—17. *D. Vulpina*, Vulpine O. Ferruginous, with black villous tail.—18. *D. Australasiaticus*, New Holland O.—19. *D. Urquina*, Urine O. Yellowish, with cleft upper lip.

<sup>98</sup> *Virginiana*, Virginian Opossum. <sup>Fig. 43.</sup> 1. *D. Virginiana*, Virginian Opossum.—This animal is about the size of a cat, but appears of a thicker form, from the length and erect position of the hair. It has an inelegant aspect, having a long sharp face, and very wide mouth, armed with numerous sharp teeth. The legs are short, and all the toes, except the thumbs of the hind feet, are furnished with sharp claws. The tail is strongly prehensile, enabling the animal to suspend itself thereby.

This is one of those species in which the abdominal pouch is most strongly marked, and into this receptacle the female receives her young when they are in danger, or when fatigued.

The Virginian opossum, like all the other American species, is a carnivorous animal, and preys on poultry, small birds, &c. in the manner of the European polecat; it is also frugivorous, eating several kinds of fruits, roots, &c. It is of a gentle disposition, and may easily be tamed; but, like some other species, it has a disagreeable smell. Its voice is a sort of grunting squeak; its pace in running is not swift, but it is very expert in climbing trees, and readily passes, by means of its clinging tail, from bough to bough, in the manner of a monkey. The female produces four or five at a birth, and has the power of closing the pouch so strongly as to make it extremely difficult to open it by the hand, nor will any torture compel the animal to loosen it. The female, when ready to bring forth her young, is said to make herself a nest of dry grass, in some bush near the root of a tree.

<sup>99</sup> *Dorsifera*, Merian Opossum. <sup>Fig. 44.</sup> 10. *D. Dorsifera*, Merian O.—Almost the only account we have of this animal is given by Madame Merian, in her work on the insects of Surinam. Her account is as follows. "By way of filling up a plate, I have represented a kind of wood-rat, which always carries her young ones upon her back; she is of a yellowish brown colour, and white beneath. When these rats come out of their hole, either to play or to seek their food, they run about with their mother; but when they are satisfied with food, or are apprehensive of danger, they climb up again on the back of the mother, and twist their tails round that of the parent, who runs with them into her hole again."

<sup>100</sup> *Dasyurus*.

Genus 21. DASYURUS.

The organs of generation and abdominal pouch in the female, as in the last genus. Front teeth in the upper jaw eight, in the lower six. Canine teeth, two in each jaw. Grinders 14, of which six are sharp. Head conical; snout furnished with large whiskers. Tail furnished with long hair. Five toes on each foot, all separate; the thumb of the hind feet extremely short.

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This is a new genus, formed by Geoffroy, to comprehend several species which are placed by Dr Shaw under *Viverra* and *Didelphis*, but which Geoffroy thinks have sufficiently distinguishing characters to be separated from both. They are all found in New Holland, and are herbivorous animals.

Geoffroy enumerates six species, to which he gives the following names and characters.

1. *D. Macrourus*, Long-tailed D. Chestnut-colour spotted with white. Tail equally speckled.—2. *D. Maugei*, Maugei D. Olive-coloured, spotted with white; tail without spots.—3. *D. Viverrinus*, Viverrine D. Black, spotted with white; tail without spots.—4. *D. Tafa*, Tafa D. Entirely brown, tail of the same colour.—5. *D. Penicillatus*, Brush-tailed D. Ash-coloured, without spots.—6. *D. Minimus*, Least D. Entirely red; tail of the same colour.

<sup>101</sup> *Perameles* M. Geoffroy has also formed a new genus, which he calls *Perameles*, in which he includes the *didelphis obefula* of Shaw, and another species that had not before been described. As we are not very certain of the necessity of this new genus, we have not included it in the arrangement of the generic characters; and for a description of the genus, we must refer to Geoffroy's Memoir, in the fourth volume of *Annales de Museum National*, page 56.

<sup>102</sup> *Obefula* Geoffroy calls the species *Perameles nasuta*, and *P. obefula*. The latter has been thus described by Dr Shaw. It is about the size of a half-grown domestic rat, and is remarkable for a thicker or more corpulent habit than most others of the genus. The hind legs are considerably longer than the fore legs, and have in miniature the form of those of the kangaroo, and some other Australasian quadrupeds; though the middle claws are far less in proportion; the interior ones are double, or both covered by a common skin. The colour of this species is a pale yellow brown, paler and inclining to whitish below; and its hair is of a coarser or harsher appearance than in the rest of the small opossums; the ears are rounded, the tail rather long. When viewed in a cursory manner, the animal bears a distant resemblance to a pig in miniature.

<sup>103</sup> *Wombat* In Collins's account of New South Wales, there is described a very curious animal under the name of *wombat*, which seems nearly allied to the opossums, and the other animals which we have just mentioned. The teeth, however, differ so much from those of the three last genera, that it can scarcely be ranked as a species of any of them, and perhaps it may hereafter constitute a new genus. The account given in the work referred to is as follows.

Its length, from the tip of the tail to the tip of the nose, is two feet seven inches, of which its body takes up one foot eleven inches. The head is seven inches, and the tail five-tenths of an inch. Its circumference behind the fore legs, 27 inches; across the thickest part of the belly, 31 inches. Its weight by hand is between 25 and 30 pounds. The hair is coarse, and is about one inch, or one and five-tenths in length, thinly set upon the belly, thicker on the back and head, and thickest upon the loins and rump; the colour of it a light sandy brown, of varying shades, but darkest along the back.

The head is large and flattish, and, when looking the animal full in the face, seems, excluding the ears,



Ferae.

to form nearly an equilateral triangle, any side of which is about seven inches and five-tenths in length; but the upper side, or that which constitutes the breadth of the head, is rather the shortest. The hair upon the face lies in regular order, as if it were combed, but its ends pointed upwards in a kind of radii, from the nose their centre.

The ears are sharp and erect, of two inches and three-tenths in length, stand well asunder, and are in nowise disproportionate. The eyes are small, and rather sunk than prominent, but quick and lively. They are placed about two inches and five-tenths asunder, a little below the centre of the imaginary triangle towards the nose. The nice co-adaptation of their ciliary processes, which are covered with a fine hair, seems to afford the animal an extraordinary power of excluding whatever might be hurtful.

The nose is large or spreading, the nostrils large, long, and capable of being closed. They stand angularly with each other, and a channel is continued from them towards the upper lip, which is divided like the hare's. The whiskers are rather thick and strong, and are in length from two to three inches and a half.

The opening of its mouth is small; it contains five long grass-cutting teeth in the front of each jaw, like those of the kangaroo; within them is a vacancy for an inch or more, then appear two small canine teeth of equal height with, and so much similar to, eight molars situated behind, as scarcely to be distinguishable from them. The whole number in both jaws amounts to 24.

The neck is thick and short, and greatly restrains the motions of the head, which, according to the common expression, looks as if it were stuck upon the shoulders.

From the neck the back arches a little as far as the loins, whence it goes off at a flat slope to the hindermost parts, where not any tail is visible. A tail, however, may be found by carefully pressing the finger over the flat slope in a line with the back bone. After separating the hairs, it is seen of some half an inch in length, and from three-tenths to one-tenth of an inch in diameter, naked, except a few fine short hairs near its end. This curious tail seemed to hold a much bolder proportion in the young than in the full grown animal.

The fore legs are very strong and muscular: their length, to the sole of the paw, is five inches and a half, and the distance between them is five inches and a half. The paws are fleshy, round, and large, being one inch and nine tenths in diameter. Their claws are five in number, attached to as many short digitations. The three middle claws are strong, and about nine-tenths of an inch in length; the thumb and little finger claws are also strong, but shorter than the others, being only seven-tenths of an inch long. The fleshy root of the thumb claw is stronger and more flexible than the others. The sole of the paw is hard, and the upper part is covered with the common hair, down to the roots of the claws which it overhangs. The hind legs are less strong and muscular than the fore; their length, to the sole, is five inches and a half; the distance between, about seven inches and a half. The hind paw is longer than the fore, but not less fleshy; its length is two inches

and seven-tenths, in breadth two inches and three-fifths. The claws are four in number; the three inner ones are less strong, but about one-fifth of an inch longer than the longest of the fore claws, and there is a fleshy spur in the place of the thumb claw. The whole paw has a curve, which throws its fore part rather inward.

In size the two sexes are nearly the same, but the female is perhaps rather the heaviest.

In the opinion of Mr Bass, this wombat seemed to be very economically made; but he thought it unnecessary to give an account of its internal structure in his journal.

This animal has no claim to swiftness, as most men could run it down. Its pace is hobbling, like the awkward gait of a bear. It is mild and gentle as becomes a grass-eater; but it bites hard, and is furious when provoked. Mr Bass never heard its voice but then; it was a low cry, between a hissing and a whizzing which could not be heard at a distance of above 40 yards. He chased one, and suddenly lifted it off the ground with his hands, and laid him along his arm like a child. It made no noise, nor any effort to escape. Its countenance was placid, and seemed as content as if Mr Bass had nursed it from its infancy. He carried it more than a mile, on his arm or his shoulder, which it took in good part; but when he secured his legs, in order to go into a bush to cut a specimen of new wood, its anger rose, and it snapped a piece from the elbow of Mr Bass's jacket with his grass-cutting teeth. Here their friendship ended, and the creature remained implacable all the way to the boat, and kicked till he was exhausted.

This circumstance seemed to prove, that with kind treatment the wombat might soon be rendered docile and affectionate; but let his tutor beware of giving him provocation, at least if he should be full grown.

Besides Furneaux island, the wombat inhabits the mountains to the west of Port Jackson. It lives below ground, being admirably formed for burrowing; but to what depths it descends, does not seem to be ascertained. According to the account given of it by the natives, the wombat of the mountains is never seen during the day, but lives retired in his hole, feeding only in the night; but that of the islands seems to feed in all parts of the day. His food is not well known, but it is probably varied according to the situation in which he may be placed. The stomachs of such as Mr Bass examined were distended by the coarse wiry grass; and he, as well as others, had seen the animal scratching among the dry ricks of sea-weed thrown upon the shores, though he could never discover what the animal was in search of.

#### Genus 22. MACROPUS. KANGUROO.

104  
Macropus.

Front teeth in the upper jaw six, emarginated; in the lower jaw two, very large, long, sharp, and pointing forwards; grinders five on each side, both in the upper and lower jaw, distant from the other teeth; fore legs very short; hind legs very long; abdominal pouch in the female.

There are only two species at present known, viz.  
1. *M. Major*, Great K. Brownish, with sharpish ears, and



<sup>Feræ.</sup> and five-toed fore feet.—2. *M. Minor*, Rat K, or kangaroo rat. Brown, ash-coloured below, with rounded ears, and four-toed fore feet.

These were ranked by Linnæus under the genus DIDELPHIS, but differ so much in many circumstances, that they have been very properly formed into a separate genus.

105  
Major,  
Kangaroo.  
Fig. 47.

1. *M. Major*, Great K.—This animal was first discovered by Captain Cook's people, while at Botany Bay in New Holland, in 1770, and an interesting, though not strictly accurate account of it, is given in Captain Cook's first voyage. It is thus described by Shaw. The general size of the kangaroo is, at least, equal to that of a full grown sheep; the upper parts of the animal are small, while the lower are remarkably large in proportion; yet such is the elegance of gradation in this respect, that the kangaroo may justly be considered as one of the most picturesque of quadrupeds. The head bears some resemblance to that of a deer, and the visage is mild and placid; the ears are moderately large, of a slightly sharpened form, and upright; the eyes large, and the mouth rather small; the neck thin and finely proportioned, the fore legs extremely short, with the feet divided into five toes, each furnished with a sharp and somewhat crooked claw. From the breast downwards the body gradually enlarges, and again decreases a little towards the tail; the thighs and hind legs are extremely stout and long, and the feet are so constructed as to appear, at first sight, to consist but of three toes, of which the middle is by far the largest, and is furnished with a claw of great size and strength; the exterior toe is also furnished with a very strong claw, but far smaller than that of the middle one; and the interior consists of two very small toes united under a common skin, with their respective claws placed so close to each other as to appear like a split or double claw; the whole appearance of the foot bears a distant resemblance to that of a bird. The kangaroo rests on the whole length of the foot, which is callous, blackish, and granulated beneath. The colour of the animal is an elegant pale brown, lighter or more inclining to whiteness on the abdomen; the ventral pouch, or receptacle for the young, is situated in the same manner as in the opossums, and is extremely large and deep.

The dimensions of a full grown kangaroo are given as follows, in Governor Phillip's Voyage to Botany Bay, viz. eight feet from the tip of the nose to that of the tail: length of the tail three feet and an inch; of the head eleven inches; of the fore legs two feet; of the hind, three feet seven inches: circumference of the fore part of the animal near the legs, three feet nine inches; of the lower part near the legs, four feet five inches; round the thickest end of the tail 13 inches. The weight of the largest specimens is said to have been about 150 pounds; but it is imagined that this animal attains a much larger size.

Though the general position of the kangaroo, when at rest, is standing on its hind feet, yet it frequently places its fore feet on the ground also, and thus feeds in the manner of other quadrupeds. It drinks by lapping. In its natural state it is extremely timid, and springs from the sight of mankind by vast bounds of many feet in height, and to a surprising distance. When in a state of captivity, it has sometimes a way of

springing forwards and kicking with its hind feet in a History of the Species. very forcible and violent manner; during which action it refts or props itself on the base of the tail. In a natural state it sometimes uses its tail as a weapon of defence, and will give such severe blows with it to dogs as to oblige them to desist from their attack. The female kangaroo has two mammae situated in the abdominal pouch, and in each are seated two teats; yet so far as has hitherto been observed, the animal produces but one young at a birth; and so exceedingly diminutive is the young, when first found in the pouch, as scarcely to exceed an inch in length. The young continues in the pouch till it is grown to a large size, and takes occasional refuge in it long after it has been accustomed to come abroad.

The kangaroo feeds entirely on vegetable substances, and chiefly on grass. In their native state these animals are said to feed in herds of 30 or 40 together, and one is generally observed to be stationed, as if apparently on the watch, at a distance from the rest.

The flesh of the kangaroo is said to be rather coarse; and such as to be eaten rather in defect of other food than as an article of luxury.

Genus 23. TALPA. MOLES.

106  
Talpa.

Front teeth in the upper jaw six, unequal; in the lower eight. Canine teeth one on each side, the upper larger. Grinders in the upper jaw seven, in the lower six.

The moles are furnished by nature for perforating the earth in the most expeditious manner. Their head is long, and provided with very strong muscles for enabling it to raise up the earth; their snout is much lengthened, and is moveable; their hands are large, broad, and flat, and armed with strong, flat, pointed claws, directed backwards for throwing the earth behind them, and the fore legs are very short and strong, and nearly hidden below the skin. They have no external ears, and their eyes are very small, and hidden in the fur. They mostly feed on worms and insects, and in this way would be of service, were it not that in seeking for these, they make much havoc among young plants by turning up the earth. This circumstance renders them very troublesome to gardeners and farmers, who take every method to destroy them.

Naturalists have described about 7 species, viz. 1. \* *T. Europæa*, Common M. Black (usually) with short tail and five toed feet.—2. *T. Purpurascens*, Purple M. Black, with a gloss of purple, with white tail and five-toed feet. 3. *T. Capensis*, Cape M. Gold-green, with a gloss of copper colour, with three-toed fore feet.—4. *T. Rufa*, Red M. Red, with short tail; three-toed fore feet, and four-toed hind feet.—5. *T. Longicaudata*, Long-tailed M. Brown, with tail moderately long, and five-toed feet, hinder scaly.—6. *T. Radiata*, Radiated M. Black, with white feet, and nose radiated with papillæ.—7. *T. Fusca*, Brown M. Brown, with white feet and tail, and very broad fore feet.

S. 1. *T. Europæa*, Common M. *Moldwarp*, or *Mouldwarp*. <sup>107</sup> *Europæa*, Common Mole.

The figure of this animal is well known. Its eyes are so small that it was long doubted whether it really



had any. It has, however, been proved by dissections assisted by the microscope, that this animal not only has eyes, but that its eyes are every way calculated for distinct vision. It possesses the senses of hearing and smelling in a very acute degree, and according to Ray and Buffon is peculiarly gifted in another faculty, on which it would be improper here to enlarge. It is sometimes found white.

Moles are found in every part of Europe, and are extremely common in Britain.

These animals, as is well known, live below the earth, where they make subterranean passages leading from one hillock to another. They live in pairs, and are said to be the most domestic of all quadrupeds. They seldom quit their holes except when compelled to do so by heavy rains, or when the earth is so much parched by constant drought, that they are unable to continue their work of burrowing. In winter they retire to elevated places, where they may be best secured from inundations; but in summer, descend to the low and flat lands, especially meadows, which they prefer on account of the earth there being fresher and softer.

They generally breed in the spring, being found big with young in January and February, and in April a great many of their young may be seen.

It appears that moles are capable of swimming to a considerable distance; and a remarkable instance of one having been seen swimming towards a small island in the middle of a lake 180 yards from land, is given by Mr Bruce in the third volume of the Linnæan Transactions.

People in general are not aware of the great mischief occasioned in fields and gardens by these animals. We are however informed by Buffon, that in the year 1740 he planted 15 or 16 acres of land with acorns, and that the greater part of them was in a little time carried away by the moles to their subterranean retreats. In many of these there were found half a bushel, and in others a bushel. Buffon, after this circumstance, caused a great number of iron traps to be constructed, by which in less than three weeks he caught 1300. To this instance of the devastation occasioned by these animals, we may add the following: In the year 1742 they were so numerous in some parts of Holland, that one farmer alone caught between 5000 and 6000 of them. The destruction occasioned by these animals is however no new phenomenon. We are informed by history, that the inhabitants of the island of Tenedos, the Trojans, and the Æolians, were infested by them in the earliest ages. For this reason a temple was erected to Apollo Smynthius, the destroyer of moles.

The catching of moles constitutes a profession which is well understood in this country. For the particular modes of taking them, we must refer our readers to Dr Darwin's *Phytologia*, p. 370, and to the second volume of the *Philosophical Magazine*, p. 34. According to Mortimer, as quoted by Pennant, the roots of white hellebore made into a paste and laid into their holes, will destroy them. They seem to have few enemies among other animals, but we are told by Sir Robert Sibbald, that there is a kind of mouse with a beak that destroys moles. We are assured that these animals are not found in Ireland.

The skin of the mole is extremely tough; its fur close set, and softer than the finest velvet, or perhaps than the fur of any other animal; it is usually black, but moles have been found spotted with white, and sometimes, though rarely, they have been seen altogether white.

Genus 24. SOREX. *SHREWS.*108  
Sorex.

Front teeth in the upper jaw two, long, bifid. In the lower two or four; the intermediate ones shorter; canine teeth several on each side; grinders cuspidated.

This genus is nearly allied to the last, and indeed a few of its species are scarcely to be distinguished from some of the moles. It is therefore not surprising that Linnæus, in the twelfth edition of his *Systema Naturæ*, ranked two species under *Sorex*, which should more properly have been placed under *Talpa*.

There are 16 species, which are thus distinguished.

1. \* *S. Araneus*, Common S, or Shrew mouse. Rusty brown, whitish below, with tail rather shorter than the body.—2. *S. Moschatus*, Musk S. Web-footed, with naked compressed tail.—3. *S. Radiatus*, Canada S. Blackish, with lengthened snout, radiated at the tip with tentacula.—4. *S. Carulescens*, Perfuming S. Blue-gray, with flesh-coloured snout, feet and tail.—5. *S. Fodiens*, Water S. Black, and white below.—6. *S. Brazilianis*, Brazilian S. Brown, with three black stripes on the back.—7. *S. Surinamensis*, Surinam S. Bay, yellowish ash colour below, with tail shorter than the body.—8. *S. Proboscideus*, Elephant S. Brown, with very long cylindrical snout.—9. *S. Leucodon*, White-toothed S. Dusk, white below, with tail of middling length.—10. *S. Tetragonurus*, square-tailed S. Quadrangular tail.—11. *S. Leucurus*, White-tailed S. Brownish, whitish beneath, with short tail, whitish towards the tip.—12. *S. Unicolor*, Cinereous S. Dusky ash-coloured, with tail narrowed at the base.—13. *S. Murinus*, Murine S. Brown, with ash coloured feet and tail, the latter of middling length.—14. *S. Pusillus*, Persian S. With rounded ears, and short subdistichous tail.—15. *S. Minutus*, Minute S. With very long snout.—16. *S. Exilis*, Pygmy S. Extremely small, with very thick cylindrical tail.

1. *S. Araneus*, Shrew Mouse, or Hardy S. The length of this little animal, from the end of the nose to the origin of the tail, is two inches and a half; that of the tail, near one inch and a half; the nose is very long and slender, and the upper mandible is much longer than the lower; the ears are short and rounded, the eyes very small, and like those of the mole, almost concealed in the hair. The colour of the head, and upper part of the body, is of a brownish dark red, the belly of a dirty white; the tail is covered with short dark hairs, the legs are very short; the hind legs are placed very far back; the feet are divided into five distinct toes.

The teeth are 28 in number, and of so singular a form, as to engage the attention of most naturalists. Gesner is of opinion, that nature seems to have formed in this animal teeth of mixed shape, between those of mice and serpents; the two upper fore teeth are very sharp, and on each side of them grows a minute process,

109  
*Araneus*,  
Common  
Shrew.  
Fig 49.



feet, scarcely visible, except on a near inspection; the other teeth are placed close together, are very small, and seem scarcely separated.

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The three mouse inhabits old walls, heaps of stones, or holes in the earth; is frequently found near out-buildings, hay ricks, dunghills, and necessary houses; it lives on insects, corn, and any filth, and has been observed rooting like a hog in the last named places. Either from its food or its nature, it has a very disagreeable smell, inasmuch that the cat will kill it, yet refuses to eat it. It is said to bring four or five young at a time. It is a very common animal in this country.

ditches covered with bushes, lying well wrapped up in moss, grass, or leaves; its food is roots, fruits, worms, and insects. It lies under the undeserved reproach of sucking cattle, and hurting their udders; but the smallness of its mouth renders that impossible. It is a mild, helpless, and patient animal; and would be liable to injury from every enemy, had not providence guarded it with a strong covering, and the power of rolling itself into a ball, by that means securing the defenceless parts. It is hunted with dogs; but few of them will venture to attack it while rolled up, so that its persecutors throw it into water, to oblige it to unroll itself. Its flesh is esteemed good food.

110  
Erinaceus.

Genus 25. ERINACEUS. HEDGEHOGS.

Front teeth, two both above and below; those of the upper jaw distant, of the lower approximated. Canine teeth on each side, in the upper jaw five, in the lower three. Grinders on each side, both above and below, four. Body covered on the upper parts with spines.

The hedgehog may be tamed; and we are told of one that lived at the Angel inn at Felton in Northumberland in 1799, which performed the duty of a turnspit, as well in every respect as the dog of that name; ran about the house as familiarly as any other domestic quadruped; displayed a facility till then unknown in this species of animals; and used to answer to the name of Tom.

This order contains 12 genera, and about 184 species.

CHAP. IV. GLIRES.

Gen. 26. HYSTRIX. PORCUPINE.

115  
Hystrix.

Front teeth two, both in the upper and under jaw, obliquely cut; grinders eight. Body covered with spines intermixed with hairs. Four toes on the fore feet, five on the hind.

There are six species; viz.

1. *H. Cristata*, Long-spined Porcupine; with four-toed fore feet, and five-toed hind feet; crested head, and short tail.—
2. *H. Prehensilis*, Prehensile P. Short-spined, with four-toed feet; and long half-naked prehensile tail.—
3. *H. Mexicana*, Mexican P. Short-spined, with four-toed feet, and tail of moderate length.—
4. *H. Macroura*, Long-tailed P. Short-spined, with five-toed feet, and very long tail; tufted at the end with club-shaped bristles.—
5. *H. Fasciculata*, Brush-tailed P. Four-toed fore feet, five-toed hind feet, and tail terminated by a tuft of flattened bristles.—
6. *H. Dorfata*, Canada P. Short-spined, with very long fur; four-toed fore feet, five-toed hind feet; spiny back, and shortish tail.

1. *H. Cristata*, Common Porcupine.—The figure which we have given of this animal will convey a better idea of it than any description. We may remark only that it is about two feet long from head to tail; and that the tail is about four inches long, being almost entirely hidden by the quills and long hair.

It is a native of Africa, India, and the Indian islands, and is found in some of the warmer parts of Europe, particularly in Sicily and Malta.

It was long believed that the porcupine had the power of darting its quills to a considerable distance, at any enemy that assailed it. This is proved to have been a vulgar error, arising probably from the manner in which the quills are detached when the animal is moulting, at which time they are often thrown with a jerk to a little distance. The quills seem intended merely as weapons of defence, and when attacked, the animal has the power of raising them, as was remarked with respect to the scales of the manis.

The

There are five species, viz. 1. \**Erinaceus Europæus*, European or common H. With rounded ears and crested nostrils.—2. *E. Inauris*, Earless H. Without external ears.—3. *E. Auritus*, Long-eared H. With long oval ears, and crested nostrils.—4. *E. Madagascariensis*, Striped H. With spines and long bristles; the body longitudinally banded with black and white, with long, sharp pointed snout.—5. *E. Malaccensis*, Malacca H. With long spines and pendulous ears.

111  
*Erinaceus*,  
Common  
Hedgehog.  
Fig. 50.

1. *Erinaceus Europæus*, Common Hedgehog, or Urchin.

The usual length of this animal, exclusive of the tail, is about ten inches; the tail is little more than an inch long, but so concealed by the spines as scarcely to be visible. The snout is like that of the hog; the upper jaw being much longer than the lower, and the end flat; the nostrils are narrow, terminated on each side by a loose thin flap; the colour of the snout is dusky; it is covered with a few scattered hairs; the upper part of the head, the sides, and the rump, are clothed with strong stiff hair, approaching the nature of bristles, of a yellowish and ash hue.

The legs are short, of a dusky colour, and almost bare; the toes on each foot are five in number, long, and separated the whole way; the thumb or interior toe is much shorter than the others; the claws long but weak; the whole upper part of the body and sides are strongly covered with close spines of an inch in length, and very sharp pointed; their lower part is white, the middle black, the points white. The mouth is small, but full of teeth. The barbarity of anatomists furnishes us with an amazing instance of its patience; one that was dissected alive, and whose feet were nailed down to the table, endured that, and every stroke of the operator's knife, without even one groan.

It is found in most parts of Europe, and is not uncommon in this island.

It produces four or five young at a birth, which are soon covered with prickles like those of the parent, but shorter and weaker.

It is a nocturnal animal, keeping retired in the day, but is in motion the whole night in search of food. It generally resides in small thickets, in hedges, or in





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the Species

The flesh of the porcupine is eaten in some places; and we are told by Mr Brydone, that when in Sicily, he dined on it, and found it extremely luscious, soon palliating on the appetite.

This animal feeds chiefly on fruits, roots, and vegetable substances. It commonly lives under ground, sleeps much by day, and goes in search of food only during the night. The female produces two young at a birth, and these, when taken early, are easily tamed.

114  
Cavia.Gen. 27. *CAVIA*, *CAVY*.

Front teeth two, wedge-shaped; grinders eight. Toes on the fore feet, four or five; on the hind feet, from three to five. Tail very short, or wanting. No clavicles.

The animals of this genus are chiefly found in America; they live on vegetable substances, and inhabit holes in the ground, or beneath the roots of trees. There are seven species; viz.

1. *Cavia Cobaya*, Variegated Cavy, or Guinea Pig. Tailless; generally variegated either with black and white, or rufous, &c.—2. *C. Paca*, Spotted C. Tailed, with five-toed feet, and sides marked by rows of yellowish white spots.—3. *C. Capybara*, Capybara. Tailless, with three-toed palmated hind feet.—4. *C. Aguti*, Aguti. Tailed, with the body reddish brown, and the belly yellowish.—5. *C. Acouchy*, Acouchy. Tailed, with olive-coloured body.—6. *C. Aperia*, Rock C. Tailless, with reddish ash-coloured body.—7. *C. Patagonica*, Patagonian C. Rusty gray, whitish below, with extremely short naked tail; large white patch on each thigh, and black rump.

115  
*Cobaya*,  
Guinea Pig.

1. *C. Cobaya*, Rattle Cavy, or Guinea Pig.—This animal is pretty well known among us, being frequently kept as a kind of pet. It is a native of South America, and naturally of a chilly tender constitution; yet it lives and breeds in our climates when kept in the house, and properly fed. Few animals breed so early as the Guinea pig. Though it does not attain its full growth till eight or nine months old, it has been known to bring forth at two months. The female goes with young about three weeks, and at her first litter produces four or five young, but her subsequent litters often consist of ten, or twelve. As these animals are thus prolific, and will breed five or six times in a year, it is computed that a thousand of them may be produced in one year from a single pair. They seem capable of no sentiment but the lowest sensuality, and pass their whole time in eating, sleeping, &c. They live entirely on vegetable food, and are very fond of parsley, apples, and other fruits. They eat often, but little at a time.

They are very neat and cleanly, and are often seen dressing each other's fur. They are easily tamed, but seem to feel no attachment to man. They grunt like a pig, make a chirping noise when pleased, and utter a sharp cry when hurt.

The flesh may be eaten, but is very indifferent.

116  
Castor.Gen. 28. *CASTOR*. *BEAVER*.

Front teeth in the upper jaw truncated, and hollowed with a transverse angle; in the lower jaw transverse

at the tips. Grinders on each side four. Tail long, depressed and scaly. Collar bones in the skeleton. Gires.

There are two species; viz.

1. *C. Fiber*, Common Beaver. Chestnut-coloured, with flat ovate naked tail.—2. *C. Huidobrius*, Chili 117  
Fiber,  
Common  
Beaver.  
Fig. 52.

B. With long, compressed, lance-shaped, hairy tail; lobed fore feet, and webbed hind feet.

1. *C. Fiber*, Common Beaver.—This animal is easily distinguished from all quadrupeds by the peculiar appearance of its tail, which is of an oval form, nearly flat, except on its upper surface, where it is slightly convex, entirely destitute of hair, except at the base, and marked with scaly divisions like the skin of a fish. The body is about three feet long, and the tail about a foot in length. The general colour of the fur is a deep chestnut, but it is sometimes found perfectly black, white, cream-coloured, or spotted.

The beaver is found in most of the northern parts of Europe and Asia, and is very abundant in North America. It was once met with in Britain, but the species has long been there extinct. It delights in shady watery situations.

Many accounts have been given of the manners and labours of this extraordinary animal, but we believe none are in general more correct than the following by Buffon.

The beavers begin to assemble in the month of June or July, for the purpose of uniting into society. They arrive in numbers from all corners, and soon form a troop of 200 or 300. The place of rendezvous is generally the place fixed for their establishment, and is always on the banks of waters. If the waters be flat, and never rise above their ordinary level, as in lakes, the beavers make no bank or dam; but in rivers or brooks, where the waters are subject to risings and fallings, they build a bank, and by this artifice they form a pond or piece of water which remains always at the same height. The bank traverses the river from one side to the other, like a sluice, and it is often from 80 to 100 feet long, by 10 or 12 broad at the base. This pile, for animals of a size so small, appears to be enormous, and supposes an incredible labour. But the solidity with which the work is constructed is still more astonishing than its magnitude. The part of the river where they erect this bank is generally shallow. If they find on the margin a large tree, which can be made to fall into the water, they begin with cutting it down, to form the principal part of their work. This tree is often thicker than the body of a man. By gnawing the foot of the tree with their four cutting teeth, they accomplish their purpose in a very short time, and always make the tree fall across the river. They next cut the branches from the trunk to make it lie level. These operations are performed by the whole community. Several beavers are employed in gnawing the foot of the tree, and others in lopping off the branches after it has fallen. Others at the same time traverse the banks of the river, and cut down smaller trees, from the size of a man's leg to that of his thigh. These they dress, and cut to a certain length to make stakes of them, and first drag them by land to the margin of the river, and then by water to the place where the building is carrying on. These piles they sink down, and



Gires.

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the Species.

and interweave the branches with the larger stakes. This operation implies the vanquishing of many difficulties; for to dress these stakes, and to put them in a situation nearly perpendicular, some of the beavers must elevate, with their teeth, the thick ends against the margin of the river, or against the cross tree, while others plunge to the bottom, and dig holes with their fore feet, to receive the points that they may stand on end. While some are labouring in this manner, others bring earth, which they plash with their feet, and beat firm with their tails. They carry the earth in their mouths, and with their fore feet, and transport it in such quantities that they fill with it all the intervals between the piles. These piles consist of several rows of stakes of equal height, all placed opposite to each other, and extend from one bank of the river to the other. The stakes facing the under part of the river, are placed perpendicularly; but the rest of the work slopes upwards, to sustain the pressure of the fluid, so that the bank, which is 10 or 12 feet wide at the base, is reduced to two or three at the top. It has, therefore, not only all the necessary thickness and solidity, but the most advantageous form for supporting the weight of the water, for preventing its issue, and to repel its efforts. Near the top, or thinnest part of the bank, they make two or three sloping holes, to allow the surface water to escape, and these they enlarge or contract, according as the river rises or falls; and when any breaches are made in the bank by sudden or violent inundations, they know how to repair them as soon as the water subsides.

It would be superfluous, after this account of their public work, to give a detail of their particular operations, were it not necessary, in a history of these animals, to mention every fact, and were not the first great structure made with a view to render their smaller habitations more commodious. These cabins or houses are built upon piles near the margin of the pond, and have two openings, the one for going to the land, and the other for throwing themselves into the water. The form of the edifices is either oval or round, some of them larger and some less, varying from four or five, to eight or ten feet diameter. Some of them consist of three or four stories, and their walls are about two feet thick, raised perpendicularly upon planks, or plain stakes, which serve both for foundations and floors to their houses. When they consist but of one story, the walls rise perpendicularly only a few feet, afterwards assume a curved form, and terminate in a dome or vault, which serves them for a roof. They are built with amazing solidity, and neatly plastered both without and within. They are impenetrable to rain, and resist the most impetuous winds. The partitions are covered with a kind of stucco, as nicely plastered as if it had been executed by the hand of man. In the application of this mortar, their tails serve for trowels, and their feet for plashing. They employ different materials, as wood, stone, and a kind of sandy earth, which is not subject to dissolution in water. The wood they use is almost all of the light and tender kinds, as alders, poplars, and willows, which generally grow on the banks of rivers, and are more easily barked, cut, and transported, than the heavier and more solid species of timber. When they once attack a tree, they never abandon it till they cut it down, and, carry it off.

They always begin the operation of cutting, at the foot, or a foot and a half above ground; they labour in a sitting posture; and, beside the convenience of this situation, they enjoy the pleasure of gnawing perpetually the bark and wood, which are most palatable to their taste; for they prefer fresh bark and tender wood to most of their ordinary aliment. Of these provisions they lay up ample stores, to support them during the winter; but they are not fond of dry wood. It is in the water, and near their habitations, that they establish their magazines. Each cabin has its own magazine, proportioned to the number of its inhabitants, who have all a common right to the store, and never pillage their neighbours. Some villages are composed of 20 or 25 cabins. But these large establishments are rare, and the common republic seldom exceeds 10 or 12 families, of which each has his own quarter of the village, his own magazine, and his separate habitation. They allow no strangers to sit down in their neighbourhood. The smallest cabins contain 2, 4, or 6, and the largest 18, 20, and, it is alledged, sometimes 30 beavers. They are almost always equally paired, being the same number of females as of males. Thus, upon a moderate computation, the society is often composed of 150 or 200, who all, at first, laboured jointly, in raising the great public building, and afterwards in select tribes or companies, in making particular habitations. In this society, however numerous, an universal peace is maintained. Their union is cemented by common labours, and it is rendered perpetual by mutual convenience, and the abundance of provisions which they amass, and consume together. Moderate appetites, a simple taste, an aversion against blood and carnage, deprive them of the idea of rapine and war. They enjoy every possible good, while man only knows how to pant after it. Friends to each other, if they have some foreign enemies, they know how to avoid them. When danger approaches, they advertise one another by striking their tail on the surface of the water, the noise of which is heard at a great distance, and resounds through all the vaults of their habitations. Each takes his post; some plunge into the lake, others conceal themselves within their walls, which can only be penetrated by the fire of heaven, or the steel of man, and which no animal will attempt either to open or to overturn. These retreats are not only very safe, but neat and commodious. The floors are spread over with verdure; the branches of the box and the fir serve them for carpets, upon which they permit not the least dirtiness. The window that faces the water answers for a balcony to receive the fresh air, and to bathe. During the greatest part of the day, they sit on end, with their heads and anterior parts of the body elevated, and their posterior parts sunk in the water. This window is made with caution, the aperture of which is sufficiently raised to prevent its being stopped up with ice, which, in the beaver climates, is often two or three feet thick. When this happens, they slope the sole of the window, cut obliquely the stakes which support it, and thus open a communication with the unfrozen water. This element is so necessary, or rather so agreeable to them, that they can seldom dispense with it. They often swim a long way under the ice; it is then that they are most easily taken, by attacking the cabin on one hand, and, at the same time, watching at a hole made at some distance,



distance, where they are obliged to repair for the purpose of respiration. The continual habit of keeping their tail and posterior parts in the water, appears to have changed the nature of their flesh. That of their anterior parts, as far as the reins, has the taste and consistence of the flesh of land or air animals; but that of the tail and posteriors has the odour and all the other qualities of fish. The tail, which is a foot long, an inch thick, and five or six inches broad, is just like an extremity or genuine portion of a fish attached to the body of a quadruped. It is entirely covered with scales, and with skin perfectly similar to those of large fishes. They may be scraped off with a knife, and, after falling, they leave an impression on the skin, as is the case with all fishes.

It is in the beginning of summer that the beavers assemble. They employ the months of July and August in the construction of their bank and cabins. They collect, in September their provisions of bark and wood; afterwards they enjoy the fruits of their labours, and taste the sweets of domestic happiness. This is the time of repose and the season of love. Knowing and loving one another from habit, from the pleasures and fatigues of a common labour, each couple join not by chance, nor by the pressing necessities of nature, but unite from choice and from taste. They pass together the autumn and the winter, and perfectly satisfied with each other, they never separate. At ease in their cabins, they go not out but upon agreeable or useful excursions, to bring in supplies of fresh bark, which they prefer to what is too dry, or too much moistened with water. The females are said to go pregnant for four months; they bring forth in the end of winter, and generally produce two or three young ones. About this time, they are left by the males, who retire to the country to enjoy the pleasures and the fruits of the spring. They return occasionally to their cabins, and are occupied in nursing, protecting, and rearing their young, who at the end of a few weeks, are in a condition to follow their dams. The females, in their turn, make little excursions to recruit themselves by the air, by eating fresh bark and herbage; and in this manner pass the summer upon the waters, and in the woods. They assemble not again till autumn, unless their banks or cabins be overturned by inundations; for when accidents of this kind happen, they suddenly collect their forces, in order to repair the breaches which have been made.

Some places they prefer to others for their habitations; and they have been observed, after having their labours frequently destroyed, to return every summer to repair them, till, being fatigued with this persecution, and weakened by the loss of several of their numbers, they took the resolution of changing their abode, and of retiring to solitudes still more profound. It is in winter that they are chiefly sought by the hunters, because their fur is not perfectly found in any other season: and, after their village is ruined, and numbers of them are taken, the society is sometimes too much reduced to admit of a fresh establishment; but those which escape death or captivity, disperse and become vagabond. Their genius, withered by fear, never again expands. They hide themselves and their talents in holes; or, sunk to the condition of other animals, they lead a timid and solitary life. Occupied only by pressing wants, and exerting solely their individual powers, they lose

for ever those social qualities which we have been so justly admiring. Gires.

The beaver is hunted for the sake of its fur, which, as is well known, forms a considerable article in the manufacture of fine hats, as well as for the drug called *Casior*, for an account of which see *MATERIA MEDICA*. Its flesh is eaten in some places, and is said to have a fishy taste.

Genus 29. MUS. RATS AND MICE. 118  
Mus.

Upper front teeth wedge-shaped. Grinders on each side three, sometimes only two. Clavicles or collar-bones in the skeleton.

These animals generally live in holes in the ground, are very swift, and able to climb trees. Their food is chiefly vegetable, which most of them seek in the night, keeping in their retreats during the day. They feed in a somewhat upright position, carrying the food to their mouth with their paws. They are very prolific, the females breeding many times a year and bringing numerous litters. The females have usually eight teats. The ears of these animals are usually short and rounded; their fore feet are commonly four-toed, with a warty excrescence in place of a fifth. Many of them are almost amphibious, living much in the water and swimming very well. A few of them are furnished with cheek pouches for carrying food to their holes. They are found in almost all parts of the world, and many of them are natives of Britain.

The species are very numerous, and are therefore by Dr Shaw distributed into the following sections.

A. With flattened tails.

1. *M. Zibethicus*, Musk Rat. Rusty brown, with long compressed lanceolate tail, and unwebbed feet.

B. With round naked tails.

2. *M. Pilorides*, Piloris. Whitish, with longish, scaly, obtuse truncated tail.—3. *M. Caraco*, American rat. Gray, with long, scaly, somewhat obtuse tail, and slightly semi-palmated hind feet.—4. \* *M. Decumanus*, Norway R. Gray, stiff-haired, with very long scaly tail, and body whitish below.—5. \* *M. Rattus*, Black R. Blackish, ash-coloured beneath, with very long scaly tail.—6. *M. Malabaricus*, Bandicot R. Gray, with naked round ears, and the two exterior toes of the hind feet shorter than the rest.—7. *M. Perchal*, Perchal R. Rusty brown, with the hind legs larger than the fore.—8. \* *M. Musculus*, Common M. Brown, ash-coloured beneath, with four toed fore feet, five-toed hind feet, and long nearly naked tail.—9. \* *M. Sylvaticus*, Wood M. Yellowish brown, with long naked tail, and body white beneath, the colours being abruptly separated on the sides.—10. *M. Agrarius*, Rustic M. Yellowish brown, with long scaly tail and black dorsal streak.—11. *M. Messorius*, Harvest M. Rusty, white beneath, with long slightly hairy tail, and ears longer than the fur of the head.—12. *M. Minutus*, Minute M. Rusty, whitish beneath, with long scaly tail.—13. *M. Soricinus*, Soricine M. Yellowish gray, with long snout, round furred ears, and hairy tail of moderate length.—14. *M. Vagus*, Wandering M. Ash-coloured, with black dorsal band, very long naked tail, and plaited ears.—15. *M. Be-  
tulinus*,



*Glires.* *fulvus*, Birch M. Fulvous, with black dorsal band, plaited ears, and very long naked tail.—16. *M. Striatus*, Streaked M. Rufous brown, with longish naked tail, and the body marked by several longitudinal rows of white spots.—17. *M. Barbarus*, Barbary M. Brown, marked with ten pale streaks; with tail of middling length, three-toed fore feet, and five-toed hind feet.

C. *With hairy tails, in general either of a middling length or short.*

18. *M. Cyanus*, Blue R. Blue, whitish beneath, with four-toed fore feet, five-toed hind feet, and slightly hairy tail of middling length.—19. *M. Saxatilis*, Rock R. Grayish brown, with longish tail; ears longer than the fur, and feet about four-toed.—20. *M. Amphibius*, Water R. Blackish brown, ash-coloured below, with ears scarcely projecting from the fur; fore feet about four-toed, and tail about half as long as the body.—21. *M. Scherman*, Scherman R. Deep brown, ash-coloured below, with slightly hairy tail of moderate length, small feet, and ears shorter than the fur.—22. *M. Lemmus*, Lemming R. Short-tailed, with ears shorter than the fur, five-toed fore feet, and body white below, variegated above with black, white and fulvous.—23. *M. Arvalis*, Meadow M. Dusky rusty, short-tailed, deep ash coloured beneath, with ears longer than the fur, and about four-toed fore feet.—24. *M. Torquatus*, Collared M. Short-tailed, rusty, with dusky variegations; ears shorter than the fur; five-toed fore feet, interrupted white collar, and black spinal stripe.—25. *M. Lagurus*, Hare-tailed M. Short-tailed, ash-coloured, white below; ears shorter than the fur; about four-toed fore feet, and black dorsal line.—26. *M. Economicus*, Economic R. Short-tailed, tawny whitish below, with naked ears concealed by the fur, and about four-toed fore feet.—27. *M. Alliarius*, Garlic M. Ash-coloured, whitish below, with rather large ears slightly hairy, and tail about an inch long.—28. *M. Rutilus*, Red M. Fulvous ash-coloured beneath, with tail about an inch long; ears longer than the fur, and about four-toed feet.—29. *M. Laniger*, Woolly M. Ash-coloured, with four-toed fore feet, five toed hind feet, and tail of middling length.—30. *M. Gregalis*, Baikal M. Gray, with ears shorter than the fur, about four-toed fore feet, and tail about one inch and a half long.—31. *M. Socialis*, Social M. Pale gray, white beneath, with very short rounded ears, about four-toed fore feet, and tail of half an inch long.—32. *M. Hudsonius*, Hudson's Bay M. Short-tailed, earless, ash-coloured, white beneath, with yellowish brown dorsal stripe, and five-toed hind feet.

D. *With cheek pouches for the temporary reception of their food.*

33. *M. Cricetus*, Hamster R. Reddish brown, pouched, with three white spots on each side, and deep black belly.—34. *M. Bursarius*, Canada R. Ash-coloured, with short nearly naked tail, pouched cheeks, and the claws of the fore feet very large, and formed for burrowing in the ground.—35. *M. Accedula*, Yaik R. Yellowish gray, whitish beneath, with pouched cheeks and sinuated ears.—36. *M. Arenarius*, Sand R. Ash-coloured, pouched; with the feet, sides of the body, belly and tail white.—37. *M. Phæus*, Afracan M. Ash

brown, pouched, white beneath.—38. *M. Songarus*. Ash-coloured, pouched, white beneath, with black spinal line, and the sides spotted with white.—39. *M. Furunculus*, Baraba R. Yellowish gray, pouched, whitish beneath, with black dorsal streak.

E. *Subterranean or Ground Rats, resembling Moles in habit and manner of life.*

40. *M. Maritimus*, Coast R. Pale yellowish brown, whitish beneath, with very large and long naked teeth, five-toed feet, no external ears, and short tail.—41. *M. Typhlus*, Blind R. Short-tailed, rufous brown, dusky beneath, with five-toed fore feet, broad front teeth and without eyes or external ears.—42. *M. Aspalex*, Daurian R. Short-tailed, earless, yellowish ash-coloured, with large wedged fore teeth, and long claws on the fore feet.—43. *M. Capensis*, Cape R. Short tailed, reddish ash, paler below, with very large naked fore teeth, five-toed feet and white muzzle.—44. *M. Talpinus*, Mole R. Short-tailed, brown, with large wedged front teeth, no external ears, and five-toed fore feet formed for burrowing.

4. \* *M. Decumanus*, Common brown or Norway rat. —This is one of the most common species of rat, by which our houses and granaries are infested, and is too well known to require any description. It was originally, it is said, brought to this country from Norway, and has multiplied so prodigiously, and is so strong and voracious, as to form one of our most unpleasant inmates. St Pierre informs us that in the Isle of France these rats are found in such prodigious swarms, that 30,000 of them have been killed in some of the houses in a single year. It is even said that the Dutch entirely abandoned that post from the number of rats by which it was infested. They will in a single night entirely destroy a whole crop of corn. They frequently infest ships in such numbers as to destroy large quantities of provisions, and even endanger the vessel by gnawing its timbers. When the Valiant came from the Havannah, in the year 1766, the rats had increased on board her so much as to destroy nearly one hundred weight of biscuit in a day; and on the ship being smoked between decks, to suffocate the rats, six hampers were for some time filled every day with those that had been thus killed.

In summer it frequents the banks of rivers, ponds, and ditches; where it lives on frogs, fishes, and small animals. But its rapacity is not confined entirely to these: It destroys rabbits, poultry, young pigeons, &c. It infests the granary, the barn, and the store-house; does infinite mischief among corn and fruit of all kinds; and, not content with satisfying its hunger, frequently carries off large quantities to its hiding place. It is a bold and fierce little animal; and when closely pursued, will turn and fasten on its assailant. Its bite is keen, and the wound it inflicts is painful, and difficult to heal, owing to the form of its teeth, which are long, sharp, and irregular.

Their produce is enormous, as the female brings forth from 12 to 18 at a litter, and usually breeds thrice a year, so that from a single pair, provided food were sufficiently plentiful, and they had no enemies to diminish their numbers, there might be propagated above 1,000,000 in the space of two years! Their enemies are, however, numerous. They are destroyed by dogs, cats, and especially weasels; and it is said that

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*Decumanus*, Norway Rat.



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the Species.120  
Hamster.  
Fig. 54.

a strong rat is as much dreaded by its own species, as the whole race is by those animals that are their prey. They are commonly taken by traps; or destroyed by poison, which latter is the surest method. Mr Bewick recommends for the purpose a composition of *nux vomica* mixed with oat meal, and a small proportion of milk and oil of rhodium.

33. *M. Cricetus*, Hamster, or Hamster Rat.—This is one of the fiercest of the rat tribe, being rather larger and much stronger than the Norway rat. It is of a pale reddish brown colour above, and blackish below, with a whitish muzzle, reddish cheeks, pretty large rounded ears, and a short tail almost bare. The male is always larger than the female.

The hamster is the only European species of rat that is furnished with pouches. It is found in Austria, Silesia, and many parts of Germany. It lives underground, burrowing down obliquely. At the end of its passage, the male sinks one perpendicular hole, and the female several, sometimes seven or eight. At the end of these are formed various vaults, either as lodges for themselves and young, or as store-houses for food. Each young has its different apartment, and each sort of grain its different vault; the former is lined with straw or grass. The vaults are of different depths, according to the age of the animals: a young hamster makes them scarcely a foot deep; an old one sinks them to the depth of four or five. The whole diameter of the habitation, with all its communications, is sometimes eight or 10 feet. The female breeds twice or three times a year, and produces from six to 18 at a litter. The young grow very rapidly, and are soon able to shift for themselves. The male and female have always separate burrows; for, except in their short season of courtship, they have no intercourse. The whole race is so malevolent, as constantly to reject all society with one another. They will fight, kill, and devour each other. The female shows little affection even for her young; for if any person digs into the hole, she attempts to save herself by burrowing deeper into the earth, leaving them a prey to the intruder. They would willingly follow her, but she is deaf to their cries, and even flouts up against them the hole which she has made. They feed on grain and fruits, which they collect in large quantities in their granaries; and in some countries they do so much damage among the corn, that a considerable reward is offered for destroying them. According to Mr Sultzter, they abound to such a degree in Gorha, that in one year 11,564, in another 54,429, and in a third 80,136 of their skins were delivered in at the hotel de ville of that capital.

The life of a hamster (says Buffon) is divided between eating and fighting. He seems to have no other passion than that of rage, which induces him to attack every animal that comes in his way, without in the least attending to the superior strength of the enemy. Ignorant of the art of saving himself by flight, rather than yield, he will allow himself to be beaten to pieces with a stick. If he seizes a man's hand, he must be killed before he quits his hold. The magnitude of the

horle terrifies him as little as the address of the dog, which lair is fond of hunting him. When the hamster perceives a dog at a distance, he begins by emptying his cheek pouches, if they happen to be filled with grain. He then blows them up so prodigiously, that the size of the head and neck greatly exceeds that of the rest of the body. He raises himself on his hind legs, and thus darts upon the enemy. If he catches hold, he never quits it, but with the loss of life. But the dog generally seizes him behind, and strangles him. This ferocious disposition prevents the hamster from being at peace with any animal whatever. He even makes war against his own species, not excepting the females. When two hamsters meet, they never fail to attack each other, and the stronger always devours the weaker. A combat between a male and a female commonly lasts longer than between two males. They begin by pursuing and biting each other; then each of them retires to a side, as if to take breath; a little after they renew the combat, and continue to fly and to fight, till one of them falls. The vanquished uniformly serves for a repast to the conqueror.

## Genus 30. HYDROMYS (F).

121  
Hydromys.

Cutting teeth two in each jaw; canine; grinders two in each row, furrowed on the side, and having a double excavation on the crown. Feet five-toed; toes on the fore feet three; those on the hind webbed. Tail round, and covered with short hair.

This is a new genus, constituted by Geoffroy to comprehend the *coypou*, which is commonly ranked as a species of *mus*, and two other species that had not been described.

His account of the genus is contained in the sixth volume of the *Annales de Museum National*, and a translation of his memoir is given in the 22d volume of the *Philosophical Magazine*.

The three species are thus distinguished by Geoffroy.

1. *H. Coypus*, Coypou H. Hair chestnut brown on the back, red on the flanks, and bright brown below the belly.—2. *H. Chrysogastrer*, Yellow-bellied H. Hair chestnut brown above, orange below.—3. *H. Leucogastrer*, White-bellied H. Hair brown above, white below.

1. *H. Coypus*, Coypou, or Coypu Rat.—This curious animal was first described by Molina, who speaks of it as a species of water rat, of the size and colour of an otter. According to Geoffroy, it is a large animal, being about 14 inches from nose to tail, with a tail about two inches long. The general tint of the hair and on the back is a chestnut brown. This colour becomes brighter on the flanks, and passes to bright red; under the belly it is only a dirty and almost dark rufet. Yet this colour is sufficiently changeable according to the manner in which the coypou raises or lowers its hair. This mobility in the tone of its fur arises from each hair being of an ash-coloured brown at the root, and bright red at the point. The felt concealed under

(F) Geoffroy chooses to spell this word *hydromis*; but we have thought the orthography that we adopt more conformable to the Greek origin of the name, viz. *hydrospus*, or *water-rat*.



Glines.

the long hair is an ash brown, of a brighter tint under the belly. The long hair on the back has the points only reddish, and that on the flanks is of the latter colour throughout the half of its length.

As in all animals which go frequently into the water, the hair of the tail is thin, short, stiff, and of a dirty red colour: in its naked parts it is scaly. The contour of the mouth and extremity of the muzzle are white. The whiskers, which are long and stiff, are also white, some black hairs excepted. Among the great number of skins which form part of the collection of M. Bechem, M. Geoffroy saw some belonging to animals which had no doubt been afflicted with the alpine disease; in one of these the silky hairs were entirely rusted, so that the back appeared of the same tint as the sides and the belly; in another, the dorsal stripe, instead of being chestnut, had passed entirely to a red colour, the flanks being of a very pale red. He could not believe that these varieties, on the one hand, were the character of youth or of the female, because these accidents were rare, considering the great number of skins which he examined; and, on the other, because M. d'Azzara has expressly told us that the female is entirely similar to the male.

Molina and d'Azzara agree in regard to the mild qualities by which the coypou is distinguished. It eats every thing given to it. It may be easily tamed, and soon becomes accustomed to the state of domesticity. It is never heard to cry but when harshly used; it then emits a piercing cry. The female produces five young, which she always carries with her.

The coypou is very common in the provinces of Chili, Buenos Ayres, and Tucuman. On the other hand, it is rarely found in Paraguay.

#### Genus 31. ARCTOMYS. *MARMOTS.*

123  
Arctomys.

Front teeth two in each jaw, strong, sharp, and wedged. Grinders in the upper jaw five on each side; in the lower jaw four. Clavicles or collar bones in the skeleton.

This genus differs in very few particulars from that of *mus*. The marmots are of a thick form, with large, roundish, and somewhat flattened heads, small mouths, the fissure having somewhat of a perpendicular appearance; ears very short, and sometimes none; a short villous tail, and five-toed hind feet: the skeleton is furnished with clavicles or collar-bones, and the oesophagus or appendicular intestine is very large. They are diurnal animals; feed on roots, and grain, reside in subterranean holes or burrows, and sleep during the winter.

There are eight species, viz.

1. *A. Marmota*, Alpine M. Brown, reddish beneath.—2. *A. Monax*, Maryland M. Rusty brown, with bluish gray snout, and longish villous tail.—3. *A. Empetra*, Quebec M. Gray, waved with darker and lighter shades, reddish below, with dusky tail.—4. *A. Bobac*, Bobac. Gray, reddish below, with a thumb claw on the fore feet.—5. *A. Prinosola*, Hoary M. Hoary, with black legs and tail.—6. *A. Maulina*, Mauline M. Tail of middling length; ears sharp-pointed, and feet five-toed.—7. *A. Gundi*, Gundi M. Reddish, with abruptly terminated ears.—8. *A. Citillus*, Variegated M. Earless, with villous tail.

1. *A. Marmota*, Alpine M.—This animal is rather

larger than a rabbit, being about 16 inches long, exclusive of the tail, which measures about 6 inches. Its head is rather large and flattish; the ears short and hidden in the fur, and the tail thick and bushy.

It is a native of the Alps and Pyrenees, being most frequently found in Savoy and Switzerland, where it inhabits the higher regions, and feeds on various roots, plants, insects, &c. It climbs readily, and ascends with ease the rocky eminences and fissures.

It is an animal which delights in the regions of high mountains. In such situations several individuals unite in forming a place of retreat, which is contrived with great art, and consists of an oval cavity or general receptacle, large enough to contain several of the animals, and having a large canal or passage, which divaricates in such a manner as to present two outlets to the surface of the ground. These recesses are prepared on the declivity of elevated spots; and the cavern or receptacle is well lined with moss and hay, which they prepare during summer, as if conscious of the necessity of providing for their long hybernal sleep. In fine weather they are seen sporting about the neighbourhood of their burrows, and delight in basking in the sunshine, frequently assuming an upright posture, sitting on their hind feet. When assembled in this manner, it is observed, that one of the exterior number seems to act as a sentinel; and, on the approach of any danger, alarms the fraternity by a loud and shrill whistle, on which they instantly retire to their cavern. These animals make no provision for winter; but as soon as the autumnal frosts commence, they carefully stop up the entrances to their mansions, and gradually fall into a state of torpidity, in which they continue till the arrival of spring, when they again awake, and recommence their excursions. Before they retire to their winter quarters they are observed to grow excessively fat; and, on the contrary, appear greatly emaciated on first emerging from them. If carefully dug up during the winter, from their holes, they may be conveyed away in their sleeping state; and when brought into a warm chamber, gradually awaken, nearly in the same manner as the hamster. If kept in a warm situation, they do not become torpid in winter. They breed early in summer, and the litter commonly consists of three or four, the growth of which is observed to be very rapid.

When taken young, the marmot may be easily tamed, and is often taught to perform various gesticulations. In a domestic state it will also eat almost any kind of animal or vegetable food, and is extremely fond of milk. In feeding it generally sits in an upright position, making use of its paws in the manner of a squirrel.

#### Genus 32. SCIURUS. *SQUIRRELS.*

125  
Sciurus.

Upper front teeth wedged; lower sharp. Upper grinders five on each side, lower four. Clavicles. Tail in most species spreading towards each side.

The beautiful animals which compose this genus are remarkable for the liveliness of their disposition, the rapidity of their movements, and the general neatness and elegance of their appearance. A few of the species are furnished with an expanse lateral skin, similar to that in the calugo, by means of which they are enabled to spring to a great distance, and to transport themselves occasionally from tree to tree. Like the calugo, they can-

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*Marmota*,  
Alpine  
Marmot.  
Fig. 56.



History of  
the Species.

not, however, continue this motion, and are therefore improperly called *flying squirrels*. The squirrels inhabit woods, and prepare their nests in hollow trees. They live entirely on vegetable food.

There are 26 species, viz.

A. *Not striped.*

1. *S. Maximus*, Great S. Rusty, yellowish below, with the out-sides of the limbs and tail black.—2. *S. Madagascariensis*, Madagascar S. Black, with the nose, ears, and under parts yellowish white, and very long tapering tail.—3. *S. Macrourus*, Long-tailed S. Dark brown, yellowish white below, with the tail twice the length of the body.—4. *S. Bicolor*, Javan S. Blackish, fulvous below, with pointed beardless ears, and large rounded thumb claw.—5. *S. Anomalus*, Georgian S. Dusky rusty, with tail and lower parts fulvous, and rounded beardless ears.—6. *S. Erythreus*, Ruddy S. Yellowish brown, with the under parts and tail red rusty, and ciliated ears.—7. *S. Indicus*, Bombay S. Purple brown; yellow below; tip of the tail orange-coloured.—8. \**S. Vulgaris*, Common S. Reddish brown, white below, with pencilled ears.—9. *S. Cinereus*, Gray S. Ash-coloured, white below, with beardless ears.—10. *S. Niger*, Black S. Black, with beardless ears.—11. *S. Hudsonius*, Hudson's Bay S. Iron gray, dashed with rusty, whitish below, with dusky side-stripe, and lance-shaped tail edged with black.—12. *S. Persicus*, Persian S. Dusky, yellow below, with white sides, beardless ears, and blackish gray tail, with a white band.—13. *S. Flavus*, Fair S. Yellow, with roundish ears and five-toed feet.—14. *S. Afluans*, Brazilian S. Dusky; yellow below, with longitudinal white stripe in the middle.

B. *Striped or variegated.*

15. *S. Variegatus*, Coquallin S. Rustyish, orangetawny below, with the upper parts varied crosswise with black, brown, and whitish.—16. *S. Mexicanus*, Mexican S. Ash brown, with five or seven longitudinal white stripes.—17. *S. Getulus*, Barbary S. Brown, with four longitudinal white stripes.—18. *S. Palmarum*, Palm S. Brown, pale below, marked above with three longitudinal yellowish stripes, and the tail with blackish ones.—19. *S. Ginginianus*, Gingi S. Gray brown, with a longitudinal white stripe on each side, and blackish tail.—20. *S. Degus*, Chilian S. Yellowish brown, with a black stripe on each shoulder.—21. *S. Striatus*, Striped S. Yellowish brown, with five longitudinal blackish stripes.

C. *Flying Squirrels.*

22. *S. Volans*, Common-flying S. Pale gray, white below, with the side skin dilated into a flying membrane.—23. *S. Volucella*, Virginian flying S. Brown, yellowish white below, with a flying membrane.—24. *S. Sabrinus*, Severn flying S. Rusty brown, yellowish white below, with flattish villous tail.—25. *S. Sagitta*? Hooded flying S. Rusty brown, pale rusty below, with the flying membrane commencing on each side of the head.—26. *S. Petaurista*, Taguan S. Chestnut-coloured; pale rusty beneath, with very long, round, tapering, villous tail.

8. *S. Vulgaris*, Common Squirrel.—The tail of this species is long enough to cover the whole body, and is

126  
*Vulgaris*,  
Common  
Squirrel.  
Fig. 57.

covered with long hairs, disposed on each side horizontally, which gives it a great breadth. These serve a double purpose. When erected, they prove a secure protection from the injuries of heat or cold: When extended, they are very instrumental in promoting those vast leaps the squirrel takes from tree to tree. On the authority of Klein and Linnæus, we may add a third application of the form of the tail. These naturalists tell us, that when the squirrel is disposed to cross a river, a piece of bark is the boat, the tail the sail.

This animal is remarkably neat, lively, active, and provident, never leaves its food to chance, but secures in some hollow tree a vast magazine of nuts for winter provision. In the summer it feeds on the buds and young shoots, and is particularly fond of those of the fir and pine, and also of the young cones. It makes its nest of moss or dry leaves, between the fork of two branches, and brings forth four or five young at a time. Squirrels are in heat early in the spring, when it is very diverting to see the female feigning an escape from the pursuit of two or three males, to observe the various proofs they give of their agility, which is then exerted in full force.

The colour of the whole head, body, tail, and legs of this animal, is a bright reddish brown: the belly and breast white. In some parts of Wales there is a variety of the squirrel kind, with a cream-coloured tail. The ears are very beautifully ornamented with long tufts of hair, of a deeper colour than those of the body. The eyes are large, black, and lively. The fore teeth strong, sharp, and well adapted to its food. The legs are short and muscular; the toes long and divided to their origin: the nails strong and sharp; in short, in all respects fitted for climbing, or clinging to the smallest boughs. On the fore feet it has only four toes, with a claw in the place of the thumb or interior toe: on the hind feet there are five toes. When it eats or dresses itself, it sits erect, covering the body with its tail, and making use of the fore legs as hands. It is observed that the gullet of this animal is very narrow, to prevent it from disgorging its food, in descending of trees, or in down leaps.

In northern climates these animals change their colour to gray on the approach of winter; and it is singular that this change will take place, even though they are kept in the warmth of a stove.

Genus 33. MYOXUS. DORMICE.

127  
Myoxus.

Front teeth two; upper wedged, lower compressed. Grinders four in each jaw. Whiskers long. Tail cylindrical, villous, thicker towards the end. Legs of equal length; fore feet four-toed.

There are seven species, viz.

1. *M. Glis*, Fat D. Gray, whitish below.—2. *M. Nitela*, Garden D. Rufous, grayish white below, with a black mark above the eyes and behind the ears.—3. *M. Dryas*, Wood D. Grayish rufous, whitish below, with a straight black stripe across the eyes to the ears.—4. \**M. Muscardinus*, Common D. Rufous, with whitish throat, and the thumbs of the hind feet without claws.—5. *M. Chrysurus*, Gilt-tailed D. Purplish brown, with the hind part of the tail and longitudinal stripe on the head gold yellow.—6. *M. Guerlingus* Guerlinguet D. Rusty, yellowish rufous beneath, with



**Glires.** with long rather depressed tapering tail.—7. *M. Africanus*, African D. Rusty gray, whitish below, with a white superciliary and lateral line; tail black in the middle, and claws on the fore feet very long.

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**Muscardinus**, Common Dormouse. Fig. 58.  
4. *M. Muscardinus*, Common D.—The size of the dormouse is equal to that of a mouse, but has a plumper appearance, and the nose is blunter; the eyes are large, black, and prominent; the ears broad, rounded, thin, and semitransparent. The fore feet are furnished with four toes, the hind feet with five; but the interior toes of the hind feet are destitute of nails. The tail is about two inches and a half long, covered on every side with hair: the head, back, sides, belly, and tail, are of a tawny red colour; the throat white.

These animals seldom appear far from their retreats, or in any open place, for which reason they seem less common in England than they really are. They make their nests of grass, moss, and dead leaves, and usually bring forth three or four young at a time.

This animal agrees with the squirrel with respect to its food, residence, and in many of its actions; but it wants much of the sprightliness of this animal, never aspiring to the tops of trees, nor, like it, attempting to bound from spray to spray. Like the squirrel, it forms little magazines of nuts for winter provision, takes its food in the same manner, and same upright posture. The consumption during the rigour of the season is but small, for it sleeps most part of the time, retiring into its hole at the first approach of the winter, where it lies torpid for the greatest part of that gloomy season. In that space it sometimes experiences a short revival, in a warm sunny day, when it takes a little food, and then relapses into its former state.

Genus 34. *DIPUS*. *JERBOA*.

Front teeth two both above and below. Fore legs very short; hind legs very long. Clavicles.

There are six species, viz.

1. *D. Sagitta*, Common Jerboa.—Pale brown, white beneath, with extremely long three-toed hind feet, and very long tail, with subpinnated black and white tip.—2. *D. Jaculus*, Alagлага J. Pale brown; white below, with extremely long five-toed hind feet, and very long tail, with subpinnated black and white tip.—3. *D. Casfer*, Cape J. Rusty, pale ash-coloured below, with five-toed fore feet, four-toed hind feet, and very villous tail, tipped with black.—4. *D. Meridianus*, Torrid J. Yellowish brown, white below, with about four toes on the fore feet and five-toed hind feet, and tapering tail.—5. *D. Tamaricinus*, Tamarisk J. Yellowish brown; white below, with about four toes on the fore feet, five-toed hind feet, and tapering tail obscurely ringed with brown.—6. *D. Canadensis*, Canadian J. Yellowish brown, whitish below, with four-toed fore feet; five-toed hind feet, the tail long and mouse-like.

130  
**Sagitta**, Common Jerboa. Fig. 59.  
1. *D. Sagitta*, Common J.—This animal appears to have been known to the ancients, under the name of *μῦς δίπους*, or two-footed mouse, and is represented, though not very correctly on some coins of Cyrene, where it is found in great abundance. By some it is supposed to be the *saphan* of the sacred writings (in our translation rendered *coney*), though this is denied by Mr Bruce. It is found in Egypt, Barbary, Palestine, in

the deserts between Bassora and Aleppo; the sandy tracts between the Don and Volga, and some other parts of Asia. M. Sonnini has given a long account of it, as he found it in Egypt, and from this we shall extract the following description.

History of the Species.  
“Its size is nearly equal to that of a large rat. Its head is broad, large in proportion to the body, the upper part flat, and of a light-fawn colour, striped with black; the upper jaw projects beyond the lower: they are both provided with two cutting teeth; the upper ones broad, square, flat, and divided lengthwise by a groove in the middle; the lower ones longer, convex externally, pointed at their extremity, and bent inwards. The muzzle is short, wide, and obtuse; a number of stiff hairs grow out on each side, and form long whiskers. The nose is white, bare, and cartilaginous. The iris of its large and projecting eye is brown; the ears long, large, and covered with hair, so short that they appear naked except on very close inspection; externally they are white in the lower part, and gray upwards: their middle, as well as the sides of the head, is of a very light-fawn colour, mixed with gray and black: they entirely surround the meatus auditorius for about one-third of their length, so that they exactly resemble the larger end of a cone. This conformation must increase the animal’s faculty of hearing, and is particularly well calculated to defend the inner part of the organ from the extraneous substances that might lodge there. The body is short, well provided with long, soft, silky hair; that which covers the back and sides is of an ash colour throughout almost the whole of its length, and of a light fawn colour where it approaches the points, which are black; but as the ash-coloured part is not visible, it may be said that the fur is fawn-coloured, with blackish zigzag stripes. These tints, which are somewhat dusky, form an agreeable contrast with the fine white of the belly. The fore legs are so short that they scarcely extend beyond the hair: they are white, and have five toes, the inner of which is short, rounded at the end, and has no nail. The four other toes, the second outer one of which is the longest, are long, and armed with great hooked nails; the heel is very high, and the middle of the foot is naked and of a flesh colour. These fore feet are of no use to the animal in walking, but serve him only to lay hold of his food, and to carry it to his mouth, as also to dig his subterraneous abode. The hind legs are covered with long hair, fawn-coloured and white; its long feet are almost entirely bare, especially on the outside, which must necessarily be the case, since the animal, whether in motion or at rest, constantly leans on that part. Those feet, so exceedingly long, have each three toes; the middle one something longer than the other two: they are all provided with nails, which are short, but broad and obtuse; they have also at the heel a kind of spur, or rather a very small rudiment of a fourth toe, which gives the jerboa of Egypt some resemblance to the alagtaga of Tartary, described by Gmelin in the Petersburg Transactions, and which part probably escaped Hasselquist, as well as many others. The toes and the heel are furnished below with long gray hairs tinged with yellow, except that at the origin of the toes, which is of a blackish cast; the nails, both of the fore and hind feet, are of a dirty white. According to Hasselquist the tail of the jerboa is three times the



History of  
the Species.

the length of the body. I never, says Sonnini, found it much more than half that length. It scarcely exceeds the circumference of a goose quill, but is of a quadrangular and not a round shape. It is of a deeper gray above than below, and is furnished with short hairs as far as the extremity, which ends in a tuft of long silky hair, half black and half gray\*."

\* Sonnini's  
Travels in  
Egypt.

This animal is as singular in its motions as in its form. It always stands erect on its hind feet, the fore feet performing the office of hands. It runs fast, and, when pursued, jumps five or six feet from the ground; burrows like rabbits; keeps close in the day; sleeps rolled up; is lively during night: when taken, emits a plaintive feeble note; feeds on vegetables, and has great strength in its fore feet. Two which Mr Pennant saw living in London, burrowed almost through the brick wall of the room they were in, came out of their hole at night for food, and, when caught, were much fatter and sleeker than when confined to their box.

The jerboa is easily tamed. M. Sonnini kept six of them for some time in a large iron cage, but found it was very difficult to preserve them, owing to their great tenderness.

131  
Lepus.

### Genus 35. LEPUS. HARES and RABBITS.

Front teeth two in each jaw, the upper pair duplicate; two small inner teeth standing behind the outer.

This genus approaches very nearly to the order of Pecora, and it has even been supposed that the common hare actually ruminates; an opinion which is owing not merely to the peculiar motions of its mouth, similar to those in ruminating animals, but to the structure of the stomach, which appears to be divided into two regions by a particular fold. All the species are herbivorous.

There are 12 species, viz.

1. \* *L. Timidus*, Common H. Rustyish brown, short-tailed, with ears longer than the head and tipped with black.—2. \* *L. Variabilis*, Varying H. Tawny-gray, short-tailed, (white in winter) with ears shorter than the head, and tipped with black.—3. *L. Americanus*, American H. Tawny-gray, short-tailed, white below, with the hind legs longer than the body, and the ears and tail tipped with gray.—4. *L. Tolai*, Baikal H. Pale brown, short-tailed, with the upper edges of the ears black.—5. \* *L. Cuniculus*, Rabbit. Short-tailed, brown, with the tips of the ears black, and the hind legs shorter than the body.—6. *L. Brazilianis*, Brazilian H. Tailless, brown, white below, with a white collar round the neck.—7. *L. Capensis*, Cape H. Brown, with reddish legs, and tail the length of the head.—8. *L. Visaccia*, Visaccia. Brownish, with long bristly tail.—9. *L. Alpinus*, Alpine H. Tailless, rusty, with rounded ears, and brownish feet.—10. *L. Ogotana*, Ogotana H. Tailless, pale brown, with oval sharpish ears of the same colour.—11. *L. Puffillus*, Calling H. Tailless, gray-brown, with nearly triangular ears edged with white.—12. *L. Minimus*, Minute H. Short-tailed, brown, long-nosed, with small hairy pointed ears.

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*Timidus*,  
Common  
Hare.  
Fig. 69.

1. *L. Timidus*, Common H.—To describe an animal so well known would be superfluous; we may only remark, that nature, ever kind and provident, in pity to its defenceless state against its numerous enemies, has

bestowed on it many faculties, by which it is frequently enabled to evade their pursuit. Fearful of every danger, and attentive to every alarm, the hare is continually upon the watch, and being provided with very long ears, moveable at pleasure, and easily directed to every quarter, is warned of the most distant approaches of danger. Its eyes are large and prominent, adapted to receive the rays of light on every side, and give notice of more immediate alarms. To these may be added its great swiftness, by which it soon leaves most of its pursuers far behind.—The hind are much longer than the fore legs, and are furnished with strong muscles, which give the hare a singular advantage in running up a hill; and, as if sensible of its powers in this respect, it is always observed to fly towards rising ground when first started.

Glires.

Thus formed for escape, the hare might be supposed to enjoy a state of tolerable security; but as every rapacious creature is its enemy, it is seldom permitted to live out its natural term. Dogs and foxes pursue it by instinct; wild cats and weasels of all kinds, catch and devour it; birds of prey are still more dangerous enemies, whilst man, far more powerful than all, makes use of every artifice to obtain an animal which constitutes one of the numerous delicacies of his table. If we were to enumerate the various stratagems which ingenuity has suggested to circumvent this persecuted creature, we would willingly omit the notable achievements and gallant exploits of the chase, which, to a cool and dispassionate observer, seem to demand a nobler game. This animal has also another means of safety from her colour very much resembling that of the ground where she sits. In the colder regions she is said to become white during the winter, when the ground is covered with snow.

The hare is very prolific, breeds four or five times in the year, goes with young 30 days, and generally produces three or four at a litter. They are first in heat about February. Hares generally keep within their seats during the day, going out only at night in search of food, and they always return to their forms by the same paths by which they left them.

The following instances of the sagacity of the hare, in endeavouring to escape from its enemies, are quoted by Mr Bewick. Touilloux says, he has seen a hare start from its form at the sound of the hunter's horn, run towards a pool of water at a considerable distance, plunge itself in, and swim to some rushes in the middle, where it lay down, and concealed itself from the pursuit of the dogs. He mentions another, which, after running two hours before the dogs, pushed a hare from its seat, and took possession of it. Others he has seen run into a sheepfold, and lie down among the sheep; and some have effected their escape by mounting an old wall, and clapping themselves down in the midst of the ivy which covered it.

The hare has been sometimes tamed, and rendered very familiar. When Dr Townson was at Gottingen, he had a young hare that became so frolicsome in the evenings, as to run about upon the sofa and bed, sit upon its hind legs, and pat him with its fore feet; and, while he was reading, it would even knock the book out of his hand. Mr Borlase saw a hare that was so familiar as to feed from the hand, lay under a chair in a common sitting room, and appeared, in every other respect,



Glires. speſt, as eaſy and comfortable in its ſituation as a lap-dog. It now and then went out into the garden; but after regaling itſelf, always returned to the houſe as its proper habitation. Its uſual companions were a grey-hound and a ſpaniel, both fo fond of hare-hunting, that they often went out together without any perſon accompanying them. With theſe two dogs this tame hare ſpent its evenings; they always leſt upon the ſame hearth, and very frequently it would ſeem to ſeek itſelf upon them.

The fur of the hare is uſed for hats; and for this purpoſe many thouſands of their ſkins are imported into this country from Ruſſia, beſides what are collected here.

133  
Cuniculus,  
Rabbit.

5. *L. Cuniculus*, the Rabbit.—Reſpecting an animal ſo well known as the rabbit, we ſhall remark only, that its fecundity is truly aſtoniſhing. It breeds ſeven times in the year, and generally produces eight young at a time. Hence it is calculated, that the produce of a ſingle pair may, in the courſe of four years, amount to the amazing number of 1,274,840, ſo that if frequent reductions were not made by various ways, there is reaſon to apprehend that they would ſoon exceed the means of their ſupport, and overrun the face of the country. They are, however, expoſed to numerous enemies. Beſides the havoock made among them by man for their fleſh and ſkins, which latter are alſo uſed in the manufacture of hats, they are the prey of foxes, weaſels, polecats, and other beaſts of prey.

The rabbit is often kept in a domeſtic ſtate; but the fleſh of the domeſtic rabbit is far inferior to that of the wild animal.

134  
Hyrax.

Genus 36. HYRAX. *HYRAX*, or *DAMAN*.

Front teeth in the upper jaw two, broad, and rather diſtant; in the lower four, broad, flat, twice notched. Grinders four on each ſide in both jaws, large. Fore feet four-toed; hind feet three-toed. No tail or clavicles.

There are three ſpecies, viz.

1. *H. Capenſis*, Cape H. Gray brown, paler below, with flat nails on the fore feet, and a ſingle ſharp crooked claw on the hind feet.—2. *H. Syriacus*, Syri- an H. Reddiſh gray, white below, with three-toed feet, and nearly equal claws.—3. *H. Hudſonius*, Hud- ſon's bay H. Aſh brown, with the hair whitish at the tips, and all the feet four-toed.

A long account is given of the ſecond ſpecies in Mr Bruce's Travels to Abyſſinia. Mr Bruce calls it *aſkoko*, and ſuppoſes it to be the ſaphan or coney of the ſacred writings. For his deſcription we muſt refer to the work itſelf.

This order contains 11 genera and 124 ſpecies.

CHAP. V. PECORA.

History of  
the Species.  
135  
Camelus.

Genus 37. CAMELUS. *CAMELS*.

Horns wanting. Front teeth in the lower jaw fix; rather thin and broad. Canine teeth diſtant, three in the upper jaw, two in the lower. Upper lip di- vided.

There are uſually enumerated ſeven ſpecies, viz.

1. *C. Dromedarius*, Arabian C. With a ſingle bunch on the back.—2. *C. Baſtrianus*, Baſtrian C. With two bunches on the back.—3. *C. Glama*, Glama. Pale ruſty, whitish below, with level back and pectoral bunch.—4. *C. Vicugna*, Vicuna. Purpliſh brown, whitish below, with level woolly back, blunt ſnout, and upright tail.—5. *C. Paco*, Paco. Purpliſh brown, woolly, white below, with oblong ſnout.—6. *C. Huanaeus*, Guanaco. Tawny, white below, with gibbous back, and upright tail.—7. *C. Arcuranus*, Chilihque. With ſmooth woolly body, curved ſnout, and pendulous ears and tail.

1. *C. Dromedarius*, Arabian Camel. Dromedary. A Dromedary, or Arabian Camel. Fig. 62.

The general height of the Arabian camel, meaſured from the top of the dorſal bunch to the ground, is about ſix feet and a half; but from the top of the head, when the animal elevates it, not leſs than nine feet. The head, however, is generally ſo carried as to be nearly on a level with the bunch, or rather below it, the animal bending the neck extremely in its general poſture. The head is ſmall; the neck very long: the body of a long and meagre ſhape; the legs rather ſlender, and the tail, which is ſlightly tufted at the end, reaches to the joints of the hind legs. The feet are very large, and are hoofed in a peculiar ſtyle, being divided into two lobes not reaching through the whole length of the foot; and the extremity of each lobe is guarded by a ſmall hoof. The under part of the foot is covered with an extremely ſtrong, tough, and pliable ſkin, which, by yielding in all directions, enables the animal to travel with peculiar eaſe and ſecurity, over dry, ſtony, and ſandy regions. On each leg are ſix calluſties, viz. one on each knee, one on the inſide of each fore leg on the upper joint, and one on the inſide of each hind leg at the bottom of the thigh. On the lower part of the breast is alſo a large callus or tough tubercle (G).

The camel is generally of a duſky-brown colour, with a ruſty tinge.

Its hair is very fine and ſoft, and is employed in making pencils for painters, and in the manufacture of various ſtuſfs.

This

(G) It was formerly ſuppoſed that, beſides the four ſtomachs common to all ruminating animals, the camel had a ſort of fifth ſtomach or appendage to the ſecond ſtomach, calculated for receiving a large quantity of water to ſupply the animal in his long journeys over the deſerts. There is no ſuch receptacle: but in the firſt, and more eſpecially the ſecond ſtomach, there are ſeveral rows of cells, furniſhed round their edges with ſtrong muſcular fibres, by which they can be cloſed at pleaſure. Into theſe cells part of the water which the camel drinks is, by a peculiar mechanism, received, and retained, in a pure ſtate, till the animal has occaſion for it. In an intereſting paper on this ſubject in the Philoſophical Tranſactions for 1806, Mr Home has given a comparative view of the ſtructure of the ſtomachs in the ox and the camel, illuſtrated by plates.



This animal attains its full strength at about the age of six years, and lives about 40 years, or sometimes 50. Only the males are usually employed for labour; the females being kept for breeding, and suffered to range at liberty. They go with young about 12 months, and usually bring forth one at a time.

The camel is found wild in the deserts of Arabia, in Africa, and in most of the temperate parts of Asia. It is domesticated chiefly among the Arabs, of whom it forms the principal riches.

We are chiefly acquainted with this animal in a state of domestication; and to this state only the accounts that have been given of him are applicable. A few days after birth the legs of the young camels are folded up below their belly, and they are constrained to remain in this position on the ground, and are loaded with a pretty heavy weight, which is never taken off but to replace it by a greater. Instead of allowing them to feed and drink at pleasure, they begin by regulating their repasts, and increasing the intervals between them, and diminishing the quantity of their nourishment. When they have acquired a little more strength, they are exercised in running, in which they are excited to emulation by the example of horses; and thus in time they become both robust and active.

Thus instructed, the camels travel with great rapidity the immense deserts of Arabia, marching night and day almost without stopping, and almost without taking food or drink. They are often made with apparent ease to travel 300 leagues in eight days; and during the whole of this time they are allowed but one hour of the day for repose, and for nourishment: often they will run for even nine or ten days without finding water; but when they happen to find water at some distance in their route, if permitted, they eagerly make towards it, and are said to scent it at more than half a league's distance.

The march of camels across the sandy plains of Arabia has been elegantly described by Buffon. "Figure to yourself (says this animated writer) a country without verdure and without water, a burning sun, an air always parched, sandy plains, mountains still more arid, which the eye runs over without perceiving an animated being; a dead earth perpetually tossed with the wind, and presenting nothing but bones, scattered slints, rocks perpendicular or overturned; a desert totally void, where the traveller never breathes under a shade, where nothing accompanies him, nothing recalls the idea of animated nature; absolute solitude, more dreadful than that of the deepest forests: more solitary and naked, more lost in an unlimited wild, he every where beholds space surrounding him like a tomb; the light of day, more dismal than the darkness of night, serves only to give him a clear idea of his own wretchedness and impotence, and to conceal from his view the boundaries of the void, by extending around him that immense abyss, which separates him from the habitable parts of the earth.

"The Arab, however, by the assistance of his camel, has learned to surmount, and even to appropriate these frightful intervals of nature. They serve him for an asylum, they secure his repose, and maintain his independence; but man never uses any thing without abuse. This same free, independent, tranquil, and even rich Arab, instead of regarding his deserts as

the ramparts of his liberty, pollutes them with his crimes; he travels them to carry off goods and slaves from the adjacent nations; he employs them for perpetrating his robberies, which unluckily he enjoys more than his liberty, for his enterprises are almost always successful; notwithstanding the vigilance of his neighbours and the superiority of their strength, he carries off with impunity all that he ravishes from them. An Arab who gives himself up to this kind of land piracy, is early accustomed to the fatigues of travelling, to want of sleep, and to hunger, thirst, and heat, and with the same view he uses and instructs his camels. After he is certain of the strength, fleetness, and sobriety of his camels, he loads them both with his own and their food, sets off with them, arrives unperceived at the confines of the desert, thro's the first passenger he meets, pillages the solitary houses, loads his camels with the booty; and, if pursued, he is obliged to accelerate his retreat. It is on these occasions, that he unfolds his own talents and those of the camels; he mounts one of the fleetest, and conducts the troop, and makes them travel night and day, without almost either stopping, eating, or drinking; and in this manner he easily performs a journey of 300 leagues in eight days. During this period of motion and fatigue his camels are perpetually loaded."

In Turkey, Persia, Arabia, Egypt, and Barbary, the only means of transporting merchandise is by camels, as this is of all others the cheapest and most expeditious method. The merchants and other travellers unite in a caravan, in order to avoid the insults, piracies, and robberies of the Arabs. These caravans always consist of a greater number of camels than of men; each of these animals is loaded according to his strength, and he so well knows the proper extent of his load, that when he is overloaded, he utters the most lamentable cries, and continues lying down till his burden is lightened. The large camels usually carry 10 or even 12 hundred weight, and the smaller 6 or 7 hundred weight.

In these commercial journeys they never hurry the camels in their march, but regulate their days work; they generally go a certain space, and travel about 10 or 12 leagues every day; every evening their load is taken off, and they are suffered to feed at liberty. If they are in a country abounding with herbage, they usually eat as much in an hour as is sufficient to serve them for the next twenty-four hours; and, during the remainder of the night, they continue to ruminate: but they seldom find such good pasture; and indeed this delicate nourishment does not appear to be necessary for them; they even seem to prefer wormwood, thistles, nettles, broom, cassia, and other prickly plants, to more pleasant herbage. So long as they find plants to browse, they easily go without drink.

Nothing is more admirable than their docility. At the first sign they bow their knees, and crouch to the earth to suffer themselves to be loaded in this situation, and, when loaded, they rise of their own accord without assistance. They follow exactly the motions of their conductors, and require neither whip nor spur to urge them forward; but, when they begin to be fatigued, their masters support their spirit, or rather beguile their fatigue, by singing or by the sound of musical instruments. When they wish to prolong their journey, they give  
them



*Pecora.* them only an hour for repose; and then resuming their song, they continue the march for several hours longer, and give over singing only when they intend to stop; then the camels crouch again with their burdens, from which they are freed by loosening the cords and fastenings on each side, while the poor animals remain kneeling on the earth, and sleep in this posture in the midst of their baggage. Mr Pennant and some other writers tell us, that camels are made to go more expeditiously by being whistled to by the drivers; but this is at least not an universal practice, as we are told by Sonnini, that the Bedouin Arabs, who possess great numbers of camels, not only never use whistling themselves, but express much uneasiness when they hear others whistle.

When the caravan on these long journeys across the deserts find themselves in want of water, and have no other means of procuring it, it is not uncommon for them to kill a camel for the sake of the water contained in his stomach, which is said to be always sweet and pleafant.

This animal, so patient, and so obedient to the voice of man, has, however, his periodical fits of rage, at which he becomes wholly unmanageable. These fits take place at the rutting season, which happens every year about spring, and continues about 40 days. At these times they are quite outrageous, eat little, foam at the mouth, and bite at other animals, and even their masters; and they have been known to take up a man in their teeth, throw him on the ground, and trample him under their feet. Though so remarkably docile, except during the rutting season, they are, however, abundantly sensible of injustice and ill treatment; and, when they experience these, they seldom fail to shew their resentment, and endeavour to wreak their vengeance on their unfeeling driver, who will not find it easy to escape their vengeance, as they are said to retain for a long time the remembrance of an injury. Though eager to express their resentment, they seem incapable of harbouring any rancour, when they are once satisfied; and it is sufficient to make them believe that they have taken their desired vengeance on their persecutor. Whenever the Arab finds that he has excited the rage of his camel, as he well knows that the animal will take the first opportunity of seeking revenge, he lays down his clothes in a situation which the animal is to pass, and arranges them in such a manner as to seem as if he himself were lying there. The camel recognises the clothes, seizes them in his teeth, flukes them violently, and tramples them under his feet; but when his rage has been thus satisfied, he leaves them, and after this his owner may approach, lead, and guide him as usual. M. Sonnini says, that he has sometimes seen them, when weary with the impatience of their riders, stop short, turn round their long necks to bite them, and utter cries of rage. Under these circumstances the rider must be careful not to dismount, or he would infallibly be torn to pieces; and he must also beware striking the beast, as that would only increase his fury. Nothing can be done but to wait with patience, and endeavour to appease the animal by patting him with the hand. When once appeased, which sometimes is not speedily effected, he can proceed on his journey at his usual pace.

Genus 38. MOSCHUS, *Musk.*

History of the Species.  
137  
Moschus.

Horns wanting; front teeth eight in the lower jaw; tusks solitary in the upper jaw, exserted.

There are 7 species, viz. 1. *Moschus Moschiferus*, Tibetan Musk. Gray-brown, with umbilical follicle.—2. *M. Indicus*, Indian M. Rufous, whitish below, with spurious hoofs, and somewhat lengthened tail.—3. *M. Pygmaeus*, Pygmy M. Reddish-brown, white below, without false hoofs.—4. *M. Meminna*, Meminna. Olive ash, white below, with the sides spotted with white, and no false hoofs.—5. *M. Javanicus*, Java M. Rusty, longitudinally white beneath, with villous tail, white below and at the tip, and small appendicular hoofs.—6. *M. Americanus*, American M. Rufous brown, with black muzzle and white throat.—7. *M. Delicatulus*, Leverian M. Rusty brown, spotted above with white.

Species 1. *Moschus Moschiferus*, Tibetan Musk. <sup>138</sup> *Moschiferus*, Tibetan Musk. Fig. 63.  
This is an animal of considerable importance, as it is from it that the article musk, so useful as a medicine and perfume, is derived.

The size and general appearance of this animal not ill resemble those of a small roebuck. It measures about three feet three inches in length, about two feet three inches in height from the tip of the shoulders to the bottom of the fore feet, and two feet nine inches from the top of the haunches to the bottom of the hind feet. The upper jaw is considerably longer than the lower, and is furnished on each side with a curved tusk about two inches long, and consequently exposed to view when the mouth is closed. These tusks are of a different form from those of any other quadruped, being sharp-edged on their inner or lower side, so as to resemble in some degree, a pair of small crooked knives; their substance is a kind of ivory, as in the tusks of the banyan and some other animals. The ears are long and narrow, of a pale yellow on the inside, and deep brown on the outside; the chin is of a yellowish cast; the general colour of the whole body a kind of deep iron-gray, the tips of the hairs being of a rusty cast, the remainder blackish, growing much paler or whitish towards the roots. Each hair is somewhat waved throughout its whole length; and is of a strong elastic nature, growing somewhat upright on the animal, and very thick. In some specimens the cheeks are whitish, and the sides of the neck marked by a longitudinal whitish band, descending to the breast, while the flank and sides are obscurely striped by a few waved whitish streaks; in others the colour is uniform, or as at first described; the hoofs are long and black, the tail extremely short, and so concealed by the fur as to be scarcely, if at all, visible on a general view.

The female is smaller than the male, and wants the tusks; it has also two small teats.

The musk animal is principally found in the kingdom of Tibet, in the province of Mohang Meng, Tonquin, and Boutan; and it is also found about the lake Baikal, and near the rivers Jen'ca and Argun. Its favourite haunts are the tops of mountains covered with pines, where it delights to wander in places of the most difficult access, bounding with great celerity, and, when pursued, taking refuge among the most inaccessible summits.



History of  
the Species.

It is hunted for the sake of the musk contained in its umbilical follicle, which is an oval receptacle, peculiar to the male, about the size of a small egg, hanging from the middle of the belly. As soon as the animal is killed, the hunters cut off the bag and tie it up for sale. Tavernier informs us, that in one of his eastern journeys, he purchased no fewer than 7673 of these bags; a proof how numerous these animals must be in the east. For the appearance and uses of musk, with the method of detecting its adulteration, see MUSK, MATERIA MEDICA Index. Besides the musk that they produce, the skins of these animals are useful as clothing. The Russians scrape off the hair, and prepare the leather, so as to render it as soft and bright as silk.

139  
Cervus.

Genus 39. CERVUS. DEER.

Horns solid, covered while young with a hairy skin, growing from the top, naked, annual, branched. Front teeth in the lower jaw eight. Canine teeth none (sometimes single in the upper jaw).

There are 12 species, viz.—1. *C. Alces*, Elk. With stemless palmated horns, and guttural caruncle.—2. *C. Tarandus*, Rein D. Branched, recurvate, round horns, with palmated extremities.—3. \* *C. Elaphus*, Stag. Reddish brown, with cylindrical, recurvate, branching horns.—4. \* *C. Dama*, Fallow D. Yellowish brown, with slightly recurvate, compressed, branching horns, palmated at the top.—5. *C. Virginianus*, Virginian D. Pale brown, with slender round branched horns, bending forward, and slightly palmated at the tip.—6. *C. Axis*, Spotted Axis. Pale reddish brown, spotted with white, with slender three-forked horns.—7. *C. Pygargus*, Tailless Roe. Tailless, brown, yellowish below, white behind, with three-forked horns and nose surrounded with black.—8. *C. Mexicanus*, Mexican Roe. Red, with rough three-forked horns, bending forward.—9. *C. Porcinus*, Porcine D. Brown, ash-coloured below, with slender three-forked horns.—10. \* *C. Capreolus*, Common Roe. Reddish brown, with branching, upright cylindrical horns, bifid at the top.—11. *C. Mustela*, Ribbed D. With three-forked horns rising from a cylindrical hairy base, with the upper fork hooked.—12. *C. Guineensis*, Gray D. Gray, blackish below.

1. *C. Alces*, Elk, or Moose Deer.—In conformity with the opinion of most naturalists, we have given the two English names of Elk and Moose Deer as synonymous, though it is not yet clearly ascertained whether they are not really distinct species. The elk is by far the largest of the deer tribe, and if we may believe the accounts of some travellers, a full grown moose is many times bigger than an ox, the tips of its horns being sometimes nearly 12 feet asunder. Its shape is represented as very elegant, having a short thick neck, large head, horns spreading out immediately from the base into a broad palmated form; a thick, broad, heavy upper lip, hanging considerably over the lower; high shoulders and long legs. Its colour is a dark grayish brown, much paler, or inclining to whiteness, on the legs, and beneath the tail. The hair, which is of a strong, coarse, and elastic nature, is much longer on the top of the shoulders and on the ridge of the neck than on the other parts, forming a kind of stiffish mane; beneath the neck the hair is also of considerable length, and in some specimens of the animal, a sort of caruncle or pendant excrescence,

covered with long hair, is seen hanging from beneath the throat; the eyes and ears are large, the hoofs broad, and the tail extremely short. It is usually bigger than a horse, and Mr Pennant estimates its greatest height at 17 hands, and its greatest weight at 1230 pounds. Its horns sometimes weigh 56 pounds; and on a moderate calculation, measure each about 32 inches in length. The female is smaller than the male, and is destitute of horns.

This animal inhabits both the Old and New Continent, but it is commonly called elk on the former, and moose deer on the latter. In Europe it is found chiefly in Sweden, Norway, and in some parts of Russia; in Asia it is met with most frequently in Siberia, where it is of a prodigious size; and in America it is most common in Canada, especially about the great lakes. It usually resides in the midst of forests, where it lives by browsing on the branches of the trees, as from its long legs and short neck it cannot easily graze from the ground. It feeds chiefly by night. Its usual pace is a high, shambling, but very swift trot, the feet being lifted very high; and, according to most travellers, the hoofs during its running separate as they approach the ground in order to give the animal a better purchase, and come together again when they rise, producing a clattering noise that is heard at a considerable distance.

Its faculty of hearing is supposed to be more acute than either its sight or scent, which renders it very difficult to kill it in the summer time, as the Indians have then no other method of doing it but by creeping after it among the trees and bushes, till they get within gunshot. In winter, when the snow is so hard frozen that the natives can go upon it in their snow shoes, they are able frequently to run it down; for its slender legs break through the snow at every step, and plunge them up to the belly. It is so tender-footed, and so short-winded, that a good runner will generally tire it in less than a day; there have been some, however, that have kept the hunters in chase for two days. On these occasions the Indians, in general, take with them nothing more than a knife or bayonet, and a little bag containing implements for lighting a fire. When the poor animal is incapable of further speed, it stands, and keeps its pursuers at bay with its head and fore feet, in the use of the latter of which it is so dexterous, that the Indians are generally obliged to lash their knives or bayonets to the end of a long stick, and stab the elk at a distance. Some who have neglected this necessary precaution, and rashly attempted to rush in upon it, have received very serious blows from its fore feet. When wounded, it sometimes becomes furious, rushes boldly on the hunters, and endeavours to tread them down: in this case the men are frequently compelled to leave their outer garments, and escape into the trees.

When suddenly roused, and endeavouring to make its escape, the elk is observed at times to fall down, as if deprived for some moments of motion. Whether this is owing, as has been frequently imagined, to an epileptic fit, or whether it merely arises from fear, is not perhaps easy to determine. The fact, however, is too well authenticated to admit our doubting it. This has given rise to the popular superstition of attributing to the hoofs the virtue of an antiepileptic medicine; and the Indians even still imagine that the elk has the power of curing itself of its own disorder, or of preventing an approaching

Peccora.

140  
Alces, Elk.  
Fig. 64.



<sup>Pecora.</sup> approaching fit, by scratching its ear with the hoof till it draws blood.

The female produces from one to three young at a time, generally about the end of April or beginning of May.

The elk is a animal of great utility. Its flesh is eaten, and is reckoned very good, but coarser and tougher than any other kind of venison; its tongue is excellent, and the fat of its nose is so much like marrow, as to be esteemed a great delicacy; its skin makes excellent tent covers and shoe leather, and the hair of its hams, which is of great length, is employed in stuffing saddles.

<sup>141</sup>  
Taranus,  
Rein Deer.

2. *C. Taranus*, Rein Deer.—This, in a domestic point of view, is the most useful animal to the natives of the countries where it resides, serving there most of the purposes of our horses. The height of this species, when full grown, is about four feet and a half. The body is rather of a thick and square form, and the legs shorter in proportion than those of the stag. Its general colour is brown above, and white below; but as it advances in age, it often becomes of a grayish white, and sometimes almost entirely white; the space about the eyes is always black. The hair on the under part of the neck is of much greater length than the rest, and forms a kind of hanging beard in that part. Both sexes are furnished with horns, but those of the male are much larger and longer than those of the female. The hoofs are long, large and black, as are also the false or secondary hoofs behind; and these latter, while the animal is running, as was remarked of the elk, make a remarkable clattering sound, which may be heard at a considerable distance.

The female begins to breed at the age of two years, is in season the latter end of September, goes with young eight months, and generally brings forth two at a time. The fondness of the dam for her young is very remarkable. They follow her for two or three years, but do not acquire their full strength until four. It is at this age that they are trained to labour, and they continue serviceable four or five years. They seldom live above 15 or 16 years.

The rein deer is found in all the northern regions of Europe, Asia, and America, particularly in Lapland, Siberia, and Greenland, where it is employed to draw the sledges of the inhabitants over the frozen snow. To this exercise the animals are accustomed from an early age. They are yoked to the sledge by a collar, from which a trace is brought under the belly between the legs, and fastened to the fore part of the sledge. These carriages are extremely light, and covered at the bottom with the skin of the rein deer. The person who sits in it guides the animal with a cord fastened to its horns; he drives it with a goad, and encourages it with his voice. Those of the wild breed, though by far the strongest, often prove refractory, and not only refuse to obey their master, but turn against him, and strike so furiously with their feet, that his only resource is to cover himself with his sledge, upon which the enraged creature vents his fury. The tame deer, on the contrary, is pliant, active and willing. When hard pushed, the rein deer will trot the distance of 60 miles without stopping; but in such exertions, the poor obedient creature fatigues itself so exceedingly, that its master is obliged to kill it immediately, to prevent a lingering death that would

ensue. In general, they go about 30 miles without stopping, and that without any dangerous effort. This mode of travelling can be performed only in the winter season, when the face of the country is covered with snow; and although the conveyance is speedy, it is inconvenient, dangerous, and troublesome.

As the rein-deer constitutes the sole riches of the Laplander, it may well be supposed that a constant attention to preserve and secure it, forms the chief employment of his life. It is no uncommon thing for one person to possess above 500 in a single herd.

These animals are much tormented by gnats, and a species of gadfly, called by Linnæus *æstrus tarandi*. The havoc made among them by the latter is so great, that their skins are often found pierced almost full of holes.

The rein-deer has sometimes been brought into Europe, and Sir H. G. Liddle, Bart. had several of them in his possession, which he brought over from Lapland. They do not, however, seem to agree with the more temperate climates.

#### Gen. 40. CAMELOPARDALIS, GIRAFFE.

<sup>142</sup>  
Camelopardalis,  
or  
Giraffe.  
Fig. 65.

Horns permanent, bony, covered with a bristly skin. Front teeth in the lower jaw eight; the exterior one on each side deeply bilobate.

This genus was formed to include a single species that Linnæus and other naturalists had classed under *cervus*; but as the form and connection of its horns differ very materially from those of the deers and antelopes, it was judged better to constitute of it a new genus. This animal, with respect to its height, exceeds all other known quadrupeds, as it measures, when full grown, nearly 17 feet from the top of the head to the fore feet. The female is lower than the male. Notwithstanding the unusual proportions of this animal, its general form is in the highest degree elegant and picturesque; the head being small, the aspect mild, the neck extremely long and tapering, the fore parts much higher than the hinder, and the disposition of the colours singular and pleasing. At first view, the fore legs seem nearly twice the length of the hind; but this difference, on accurate examination, appears to result chiefly from the extraordinary height of the shoulders, compared with that of the thighs; accordingly, among the old writers who have described this animal, Petrus Gyllius perhaps approaches nearest to the truth, when he affirms, that all the legs or tibiæ of the camelopardi are of nearly equal length, but that the fore thighs are so long in comparison with the hind, that the back appears inclined like the roof of a house.

The horns of the camelopardalis differ in texture from those of all other horned quadrupeds, forming, as it were, a part of the skull, and consisting of a porous bony substance covered externally with short, coarse, bristly hair; they terminate abruptly, on a flattish or slightly convex head, but little wider than the other part of the horn, and edged with bristles all round the outline. On the middle of the forehead is a considerable protuberance, owing to an elevation or bony rising on that part of the skull. From the head to the middle of the back runs a short stiffish mane. The tail is of moderate length, of a cylindrical form, gradually tapering towards the end, and terminating in a tuft of long hair. The hoofs are moderately large and black.



History of  
the Species.

The fore part of the body is very thick and muscular, and the hind part thin and meagre. The ground colour of the animal is whitish, variegated on all parts with numerous, moderately large, and somewhat squarish spots, which in the male are brown, and in the female rusty. In the younger animals they are sometimes of a bright reddish-yellow. These marks or spots are of a somewhat less regular shape on the sides, than on the neck and shoulders.

This animal is an inhabitant of Africa, where it is found chiefly in Ethiopia, and other internal parts of the country, being rarely met with near the coasts. It resides in the forests, where it lives by browsing on the branches of trees. It is of a mild and timid disposition. When pursued, it trots so fast, that even a good horse is scarcely able to keep pace with it, and it continues its course for a long time without requiring rest. When it leaps, it lifts first the fore legs, and then the hinder ones, in the manner of a horse whose fore legs are tied together. Its general position, except when grazing, is with the head and neck erect. It feeds principally on the leaves of trees, and particular on those of a peculiar species of *mimosa*, common in the country where it is found, to which the extreme length of its legs and neck admirably adapt it. When it feeds from the ground, it is under the necessity of dividing its fore legs to a considerable distance. In preparing to lie down, it kneels like the camel.

It has been generally supposed that the giraffe possessed neither the power nor the strength to defend itself against the attacks of other animals; this, however, seems to be unfounded, for M. le Vaillant has asserted, that by its kicks it frequently wearies, discourages, and distances even the lion. The utility of the horns appears to be hitherto unknown; this writer says that they are not used as weapons of defence.

The giraffe is hunted by the Hottentots for the sake of its flesh, and its marrow, which latter they esteem as a great delicacy.

143  
Antelope.Gen. 41. ANTILOPE. *ANTELOPES.*

Horns hollow, seated on a bony core, growing upwards, ringed or wreathed, permanent. Front teeth in the lower jaw eight. Canine teeth none.

The individuals of this genus, with the exception of two or three species, inhabit the hottest parts of the globe, or at least those parts of the temperate zones that lie so near the tropics as to form a doubtful climate. None, therefore, except the *saiga* and the *chamois*, are to be met with in Europe; and notwithstanding the warmth of South America is suited to their nature, not a single species has yet been discovered in any part of the new world. Their proper climates seem, therefore, to be those of Asia and Africa, where the species are very numerous.

As there appears a general agreement in the nature of the species that form this great genus, it will prevent needless repetition to observe, that the antelopes are animals generally of a most elegant and active make; of a restless and timid disposition; extremely watchful; of great vivacity; remarkably swift and agile, and most of their boundings so light, so elastic, as to strike the spectator with astonishment. What is very singular is, that they will stop in the midst of their course, gaze

for a moment at their pursuers, and then resume their flight.

As the chase of these animals is a favourite amusement with the eastern nations, from that may be collected proofs of the rapid speed of the antelope tribe. The greyhound, the fleetest of dogs, is usually unequal in the course, and the sportsman is obliged to call in the aid of the falcon, trained for the purpose, to seize on the animal, and impede its motions, in order to give the dogs an opportunity of overtaking it. In India and Persia a species of leopard is made use of in the chase. This is an animal that takes its prey not by swiftness of foot, but by the greatness of its springs, by motions similar to those of the antelope; but should the leopard fail in its first essay, the game escapes.

The fleetness of the antelope was proverbial in the country it inhabited, even in the earliest times: the speed of Afahel is beautifully compared to that of the tzebi, and the Gadites were said to be as swift as the antelopes upon the mountains. To this day the greatest compliment that can be paid to female beauty in the eastern regions is *Aine el czazel*, You have the eyes of an antelope.

Some species of antelopes form herds of 2000 or 3000, while others keep in troops of only five or six. They generally reside in hilly countries, though some inhabit plains. They often browse like the goat, and feed on the tender shoots of trees, from which their flesh acquires an excellent flavour. The flesh of most of the species is eaten, but that of some of them is said to taste of musk.

This is a very numerous genus, and most of the species are comparatively new, only six having been known to Linnæus, who ranked them under the genus *Capra*. The following are enumerated by Dr Shaw, though he confesses himself not certain that they are all distinct species.

A. *With straight or nearly straight horns.*

1. *Antelope Oryx*, Egyptian A. Gray, with black and white face, dusky dorsal stripe, and very long, tapering, sharply-ringed horns.—2. *A. Leucoryx*, White A. Milk white, with very long, tapering, slightly-ringed horns.—3. *A. Gazella*, Gazel. Bay, with slightly-bowed, tapering, wrinkled horns.—4. *A. Orcas*, Indian A. Slate-coloured, with reddish head, black mane on the neck and breast, and tapering wreathed horns.—5. *A. Ourebi*, Ourebi. Rusty brown, with the breast, belly, hind part of the thighs, and insides of the limbs, white; and small horns.—6. *A. Oreotragus*, Klipspringer. Yellowish tawny; whitish below, with very straight upright tapering horns, slightly wrinkled at their base.—7. *A. Scriptus*, Harnessed A. Chestnut-coloured, with white crossed stripes on the sides; and tapering wreathed horns.—8. *A. Grimmia*, Guinea A. Yellowish bay, with short horns, and black bristly tuft on the forehead.—9. *A. Pygmaea*, Pigmy A. With short convex horns, wrinkled at the base.

B. *With curved, bent, or twisted horns.*

10. *A. Pieta*, Nyl-ghau. Slate-coloured, with the back of the neck and breast maned, the feet barred with black and white, and somewhat triangular horns bending forwards.—11. *A. Trajocamelus*, Indian A. Gray, with maned neck and breast, dorsal protuberance, long

Pecora.



Pecora.

long flocky tail, and tapering horns bending forwards.—12. *A. Babalis*, Cervine A. Reddish brown, with large elongated head, thick, strongly wrinkled, lyrate horns, and longish tail.—13. *A. Strepsiceros*, Striped A. Reddish gray, with compressed spirally ridged horns, white longitudinal dorsal, and transverse lateral stripes. 14. *A. Cervicapra*, Common A. Tawny brown, white below, with round, lyrate, ringed horns.—15. *A. Lerwia*, Gambian A. Reddish, with the nape of the neck bearded, and recurved wrinkled horns.—16. *A. Saiga*, Saiga. Yellowish gray, with distant, semitransparent, lyrate, and ringed horns.—17. *A. Gutturosa*, Chinese A. Tawny, whitish below, with lyrate yellowish ringed horns, and prominent throat.—18. *A. Subgutturosa*, Guldentit's A. Gray-brown, white below, with lyrate horns, and tumid throat.—19. *A. Euclore*, Springer. Yellowish brown, white below, with dark lateral stripe, lyrate horns, and expansible white patch above the tail. 20. *A. Arundinacea*, Ritbock. Ash-coloured, white below, with ringed horns, bending forwards.—21. *A. Sylvatica*, Boibock. Brown-white below, the hind part of the body spotted with white, the horns spirally, and ringed.—22. *A. Eotracus*, Cinereous A. Gray, snow-white below, with spirally ringed horns.—23. *A. Dorcas*, Barbary A. Fulvous brown, white below, with lateral-brown band, and lyrate horns.—24. *A. Kevella*, Flat-horned A. Tawny-brown, white below, with brown lateral band, and compressed lyrate horns.—25. *A. Pygarga*, White-faced A. Rusty brown, white below, with brown lateral band, white rump, and lyrate horns.—26. *A. Corinna*, Corine. Fulvous brown, white below, with dark lateral band, and sublyrate, rather erect, smoothish horns.—27. *A. Sumatrensis*, Sumatran A. Black, with recurved horns, and whitish bristly name between the shoulders.—28. *A. Leucophaea*, Blue A. Blue gray, with roundish, arcuated, recurved, ringed horns.

## C. With hooked horns.

29. *A. Gnu*, Gnu. Rusty brown, with maned neck, whitish tail, and horns directed forwards, and then suddenly backwards.—30. *A. Dama*, Nanguer. White, with fulvous back, and round horns, incurvated forwards.—*A. Ridunca*, Red A. Red brown, with round slightly ringed horns, recurved forwards at the tips.—32. *A. Rupicapra*, Chamois. Brown, with smooth upright horns, with the tips hooked forwards.

10. *A. Pista*, the Nyl-gbau.—This curious animal was first described by Dr W. Hunter, in the Philosophical Transactions, vol. lxi. Its height is about four feet to the top of the shoulders, and it measures nearly about the same in length from the bottom of the neck to the base of the tail. It is of a fine slate colour, with a large white spot below the throat, and two white bands above each foot. Its ears are large, edged with white, white within, where they are marked with two black stripes. Along the top of the neck there is a slight black mane, continued to some distance down the back, and on the breast there is a much thicker mane, or tuft of the same colour. The tail is moderately long, and tufted at the end; the horns are short, pointed, smooth, and three-cornered at the base. The female resembles the male in general appearance, but

is considerably smaller. This animal is a native of the interior parts of India, and was a favourite object of the chase with the emperor Aurengzebe. Some years ago two of them were brought into England, and were kept some time by Dr Hunter, who has given the following account of its manners.

Although the nyl-gbau is usually reported to be exceedingly vicious, yet the one he had the care of was very gentle. It seemed pleased with every kind of familiarity, always licked the hand which either stroked it or gave it bread, and never once attempted to use its horns offensively. It seemed to have much dependence on the organs of smell, and snuffed keenly, and with considerable noise, whenever any person came within sight. It did the same when any food or drink was brought to it, and was so offended with an uncommon smell, or was so cautious, that it would not taste bread that was offered with a hand that had touched oil of turpentine or spirits.

Its manner of fighting was very particular; this was observed at Lord Clive's, where two males were put into a little inclosure, and it was thus related by his lordship. While they were at a considerable distance from each other, they prepared for the attack by falling down upon their fore knees, and when they were come within some yards, they made a spring, and darted against each other.

At the time that two of them were in his stable, Dr Hunter observed this particularity, that whenever any attempt was made on them, they immediately fell down upon their fore knees; and sometimes they would do so when he came before them; but as they never darted, he so little supposed this to be a hostile posture, that he rather supposed it to be expressive of a timid humility.

The intrepidity and force with which they dart against any object may be conceived from an anecdote that has been related of the finest and largest of these animals that has ever been seen in England. A poor labouring man, without knowing that the animal was near him, and therefore neither meaning to offend, nor suspecting the danger, came up to the outside of the poles of the inclosure where it was kept; the nyl-gbau, with the swiftness of lightning, darted against the wood-work with such violence that he shattered it to pieces, and broke off one of his horns close to the root. This violence was supposed to occasion his death, which happened not long after. From this it appears, that at certain seasons the animal is vicious and fierce, however gentle it may be at other times.

## Gen. 42. CAPRA, GOATS.

145  
Capra.

Horns hollow, turning upwards and backwards, rough, almost close at their base. Front teeth in the lower jaw eight. No tusks. Chin bearded in the male.

There are eight species; viz.

1. *C. Ilex*, Ibex. Gray brown, whitish below, with large horns, bending over the back; and bearded throat.—2. *C. Saggurus*, Caucasian I. Gray brown, white below, with large, keeled, slightly-wrinkled, bowed horns, and bearded throat.—3. *C. Hircus*, Common G. With bowed keeled horns, commonly turning outwards towards the end.—4. *C. Mambrica*, Syrian G.

With



History of  
the Species.

With pendulous ears and horns reclined backwards.—  
5. *C. Angorensis*, Angora G. With very long, pend-  
ent, spirally-curved hair.—6. *C. Depressa*, African G.  
With very small depressed horns, closely incumbent on  
the head.—7. *C. Reverfa*, Whidaw G. With upright  
horns, recurved at the tips.—8. *C. Capricornus*, Capri-  
corn G. With short horns, turning forwards at the  
tips, and ringed on the sides.

146  
Ibex.  
Fig. 67.

1. *Ibex*, Ibex.—As this is supposed to have been the  
original stock from which the common goat has been  
derived, we shall here give a short account of it.

This is an animal of great strength and activity, and  
is considerably larger than the common goat. It is of  
a deep hoary, or grayish brown colour, with a whiter  
shade below, and on the insides of the limbs. The  
body is thick and strong, the head rather small; eyes  
large, and the horns very large and long, so as some-  
times to extend the whole length of the body. These  
are of a deep brown colour, and are marked above  
with transverse semicircular protuberances or knots. The  
legs are strong, with short hoofs; the tail is short, and  
the chin is furnished with a brown or dusky beard. The  
female is less than the male, and has smaller horns.

The ibex is found in several parts of Europe and Asia,  
chiefly in the mountainous parts of the country, especi-  
ally the Carpathian and Pyrenean mountains, the Rhæ-  
tian Alps, Mount Taurus, the high lands between  
Eastern Tartary and Siberia, and on the mountainous  
parts of the island of Candia.

The flesh of the young ibex is said to be in good  
esteem as an article of food. Its period of gestation is  
said to be the same as in the common goat; viz. five  
months.

In its general habits or manners the ibex resembles  
the common goat, but possesses every attribute of  
strength and activity in a degree proportioned to its na-  
tural state of wildness. It delights to climb mountains,  
and hang upon the brinks of precipices; and its chase is  
in consequence considered, like that of the *chamois*, as  
in the highest degree difficult and laborious. It is even  
said, that when hard pressed, this animal will fling it-  
self down a steep precipice, and falling on its horns  
escape unhurt from its pursuers; nor will this appear  
in the least incredible, if we may rely on the faith of  
*Monardes*, who assures us that he saw a *Caucasian ibex*  
leap from the top of a high tower, and, falling on its  
horns, immediately spring up on its limbs, and leap  
about without having received the least apparent in-  
jury.

Two or three hunters usually associate in this perilous  
occupation; they are armed with rifle-barreled guns,  
and furnished with small bags of provisions; they erect  
a miserable hut of turf among the heights, where, with-  
out fire or covering, they pass the night; and on awa-  
king in the morning, they not unfrequently find the  
entrance blocked up with snow three or four feet deep.  
Sometimes, in pursuit of this animal, being overtaken  
by darkness, amid crags and precipices, they are obliged  
to pass the whole night standing, and embraced to-  
gether, in order to support each other, and to prevent  
themselves from sleeping.

For an account of the common goat, we refer our  
readers to Buffon and Mr Pennant's British Zoology,  
where they will meet with every thing of consequence  
respecting that useful animal.

## Gen. 43. OVIS, SHEEP.

Horns hollowed, wrinkled, turning backwards, and spi-  
rally twisted inwards. Front teeth eight in the lower  
jaw. Canine teeth none.

There are usually enumerated about eight species.

1. *Ovis Ammon*, Argali. With arched semicircular  
horns, flat below, and loose hairy dewlaps.—2. \* *O. A-*  
*ries*, Common S. With compressed lunated horns.—  
3. *O. Strepsiceros*, Cretan S. With upright, keeled,  
spirally twisted horns.—4. *O. Polycerata*. Many-horned  
S.—5. *O. Guineensis*, African S. With pendulous ears,  
loose hairy dewlaps, and head prominent at the back.  
—6. *O. Laticaudata*, Broad-tailed S.—7. *O. Steatophy-*  
*ga*, Fat-rumped S.—8. *O. Pudu*, Pudu. With smooth  
round diverging horns, and beardless throat.

2. *Ovis Aries*, Common Sheep.—In its present state  
of domestication, the sheep seems so far removed from a  
state of nature as to make it a difficult matter to point  
out its origin. But naturalists are now generally of  
opinion, that it has proceeded from the argali or wild  
sheep, (the *mousson* of Buffon).

Climate, food, and above all, the unwearied arts of  
cultivation, contribute to render this animal in a pecu-  
liar manner, the creature of man, to whom it is obliged  
to trust entirely for its protection, and to whose neces-  
sities it largely contributes. Though singularly inoffen-  
sive, and harmless even to a proverb, it does not appear  
to be that stupid, inanimate creature described by Buf-  
fon: "devoid of every necessary art of self-preservation,  
without courage, and even deprived of every instinctive  
faculty, we are led to conclude that the sheep, of all  
other animals, is the most contemptible and stupid." But  
amidst those numerous flocks which range without  
control on extensive mountains, where they seldom de-  
pend upon the aid of the shepherd, it will be found to  
assume a very different character. In those situations, a  
ram or wedder will boldly attack a single dog, and  
often comes off victorious; but when the danger is more  
alarming, they have recourse to the collected strength  
of the whole flock. On such occasions they draw up  
into a compact body, placing the young and the fe-  
males in the centre, while the males take the foremost  
ranks, keeping close by each other. Thus an arm-  
ed front is presented to all quarters, and cannot be  
easily attacked without danger of destruction to the as-  
sailant. In this manner they wait with firmness the ap-  
proach of the enemy; nor does their courage fail them  
in the moment of attack; for when the aggressor ad-  
vances within a few yards of the line, the rams dart  
upon him with such impetuosity, as lays him dead at  
their feet, unless he save himself by flight. Against  
the attacks of single dogs or foxes, when in this situa-  
tion, they are perfectly secure. A ram, regardless of  
danger, will sometimes engage a bull, and his forehead  
being much harder than that of any other animal, he  
seldom fails to conquer. The bull, by lowering his  
head, receives the stroke of the ram between his eyes,  
which usually brings him to the ground.

In the selection of their food, few animals discover  
greater sagacity than the sheep, nor does any domestic  
animal shew more dexterity and cunning in its attempts  
to elude the vigilance of the shepherd, in order to steal  
such delicacies as are agreeable to its palate.

Besides



Pecora.

Besides its hardiness in enduring great severities of weather, the natural instinct of the sheep, in foreseeing the approach of a storm, is no less remarkable. In their endeavours to secure themselves under the shelter of some hill, whole flocks have frequently been buried for many days under a covering of snow, and have afterwards been taken out without any material injury.

There have been instances, where sheep, at the approach of a storm, have fled for shelter to a neighbouring cottage, and taken refuge under the same roof with their shepherd.

The variety in this creature is so great, that scarcely any two countries produce sheep of the same kind. There is found a manifest difference in all, either in the size, the covering, the shape or the horns. The woolly sheep is found only in Europe, and the temperate provinces of Asia. When transported into warmer climates, it loses its wool, and becomes rough and hairy, is less fertile, and its flesh no longer retains the same flavour.

No country produces finer sheep than Great Britain; their fleeces are large, and well adapted to the purposes of clothing. The Spanish fleeces are indeed finer, but for utility cannot be compared with those of Lincolnshire or Warwickshire. In Edward III's time, when wool was allowed to be exported, it brought into the kingdom 150,000*l.* per annum. at the rate of 2*l.* 10*s.* a pack. At this time, when our woollen manufactory stands unrivalled by any nation of the world, and when every method is taken to prevent this valuable commodity from being sent out of the kingdom, the annual value of wool shorn in England is supposed to be about 5,000,000*l.* sterling, and when manufactured together with the Spanish wool imported, amounting to about 600,000*l.* the total value must be above 20,000,000*l.*

Two of the front teeth in the sheep drop out before they are two years old, at which time they are replaced by others; at three years old, four of them are renewed, and the remainder at the age of four.

The ewe produces one or two lambs at a time, and sometimes, though rarely, three or four. She bears her young five months, and brings forth in the spring. The ram lives to the age of about 15 years, and begins to procreate at one. When castrated, they are called wethers. They then grow sooner fat, and the flesh becomes finer and better flavoured.

There is hardly any part of this animal that is not serviceable to man: of the fleece we make our clothes; the skin produces leather, of which are made gloves, parchment, and covers for books; the entrails are formed into strings for fiddles, and other musical instruments, likewise coverings for whips; its milk affords both butter and cheese, and its flesh is a delicate and wholesome food.

To the foregoing account of the sheep, for which we are indebted to Mr Bewick, we shall add a few remarks from Mr Cully's observations on live stock, on the most remarkable breeds of sheep at present cultivated in this country.

Mr Cully begins with those of Lincolnshire, which are of a large size, big-boned, and afford a greater quantity of wool than any other kind, owing to the rich fat marshes on which they feed; but their flesh is coarse, leaner, and not so finely flavoured as that of smaller sheep. The same breed extends, with some va-

riations, through most of the midland counties of England. But the largest breed of sheep in this island, is to be met with on the banks of the Tees, which runs through a rich and fertile country, dividing the two counties of Yorkshire and Durham. This kind differs from the preceding, in their wool not being so long and heavy; their legs are longer, but finer boned, and support a thicker, firmer carcase. Their flesh is likewise much fatter, and finer grained. These sheep weigh from 25 or 45 lbs. per quarter; some have been fed to 50 lbs. and one in particular was killed which weighed 62 lbs. 10 oz. per quarter, avoirdupois; a circumstance never before heard of in this island. The ewes of this breed generally bring forth two lambs each season; sometimes 3, 4, and even 5. As an instance of extraordinary fecundity, it deserves to be mentioned, that one of these ewes at the age of two years, brought forth six lambs at one time, the next season five, both within 11 months.

The Dorsetshire breed is likewise remarkably prolific, the ewes being capable of bringing forth twice a year. It is from these, that the tables of our nobility and gentry are supplied with early lamb at Christmas, or sooner if required. Great numbers of those early victims to luxury are yearly sent to the London markets, where they are sold at the enormous price of 10*s.* 6*d.* or perhaps 15*s.* per quarter. The manner of rearing the lambs is curious. They are imprisoned in little dark cabins; the ewes are fed with oil-cakes, hay, corn, turnips, cabbages, or any other food which the season of the year affords; these are given them in a field contiguous to the apartments where the lambs are kept; and at proper intervals, the nurses are brought in to give suck to their young ones, while the attendants, at the same time, make their lodgings perfectly clean, and litter them with fresh straw. Great attention is paid to this as much of the success of rearing these unseasonable productions depends upon warmth and cleanliness.

The Dorsetshire sheep are mostly white-faced, their legs are long and small, and great numbers of them have no wool upon their bellies, which gives them an uncouth appearance. They produce a small quantity of wool, but of a good quality, from which our fine Wiltshire cloths are made. The mutton of these sheep is very sweet and well flavoured. The variations of this breed are spread through most of the southern counties, but the true kind is only to be found in Dorsetshire and Wiltshire. There is a breed, not unlike this, in Norfolk and Suffolk, but they are all gray or black-faced.

For some observations on feeding sheep, see AGRICULTURE, N<sup>o</sup> 600; for the best method of providing them with shelter against the weather, see FARRIERY, N<sup>o</sup> 109; and for some account of their diseases, with the most approved methods of treatment, see the same article, Part vi. *passim*.

## Gen. 44. BOS, Ox.

149  
Ecs.

Horns concave, turned outwards, lunated, smooth. Front teeth eight in the lower jaw. Canine teeth none.

There are numerous varieties, but naturalists have not distinguished more than about six species; viz.

1. \* *Bos Taurus*, Common O. With round horns curving outwards, and loose dewlap.—2. *B. Arnee*, Arnees. With







*Pecora.* The richness of the pasture contributes not a little to its increase. There have been instances of cows giving upwards of 30 quarts of milk in one day. In such cases there is a necessity for milking them thrice. From the milk of some cows, 12lbs. or 14lbs. of butter are made in a week.

It is a curious fact, that, in some instances, cows are naturally barren; and this is said to happen when a cow brings forth two calves, one of them a male, the other a female: the former is a perfect animal, but the latter is incapable of propagation, and is well known to farmers under the denomination of a *free-martin*. It resembles the ox, or spayed heifer, in figure, and is considerably larger than the cow. It is sometimes preserved by the farmer, for the purpose of yoking with the oxen, or fattening for the table. Mr Hunter observes, that the flesh of the free-martin, like that of the ox, is in common much finer in the fibre than either the bull or cow. It is supposed to exceed that of the heifer in delicacy of flavour, and bears a higher price at market\*.

\* See *Hunter on the animal economy.*

It is unnecessary to enlarge further on the ox in a domestic state. We shall therefore only give a short account of a very singular species of wild cattle that were formerly found in this country, but which are now nearly extinct.

Numerous herds of them were kept in several parts of England and Scotland, but they have been destroyed by various means. The only breeds now remaining in the kingdom are in the park at Chillingham-castle in Northumberland; at Wollaton in Nottinghamshire, the seat of Lord Middleton; at Gisburne, in Craven, Yorkshire; at Limehall in Cheshire, and at Chartley in Staffordshire.

The principal external appearances which distinguish this breed of cattle from all others are the following. Their colour is invariably white, muzzles black; the whole of the inside of the ear, and about one-third of the outside, from the tip downwards, red; horns white, with black tips, very fine, and bent upwards. Some of the bulls have a thin upright mane, about one inch and a half or two inches long.

At the first appearance of any person, they set off in full gallop, and at the distance of 200 or 300 yards, make a wheel round, and come boldly up again, tossing their heads in a menacing manner. On a sudden they make a full stop, at the distance of 40 or 50 yards, looking wildly at the object of their surprise; but upon the least motion being made, they all again turn round, and fly off with equal speed, but not to the same distance. Forming a short circle, and again returning with a bolder and more threatening aspect than before, they approach much nearer, probably within 30 yards, when they make another stand, and again fly off. This they do several times, shortening their distance, and advancing nearer, till they come within ten yards, when most people think it prudent to leave them, not choosing to provoke them further, for there is little doubt but in two or three turns more they would make an attack.

The mode of killing them was, perhaps, the only modern remains of the grandeur of ancient hunting. On notice being given, that a wild bull would be killed on a certain day, the inhabitants of the neighbourhood came mounted, and armed with guns, &c. sometimes to the amount of 100 horse and 500 foot, who

flood upon walls, or got into trees, while the horsemen rode off the bull from the rest of the herd, until he stood at bay, when a marksman dismounted and shot. At some of these huntings, 20 or 30 shots have been fired before he was subdued. On such occasions the bleeding victim grew desperately furious, from the smarting of his wounds, and the shouts of savage joy that were echoing from every side. But, from the number of accidents that happened, this dangerous mode has been little practised of late years; the park-keeper alone generally shooting them with a rifled gun at one shot.

*History of the Species.*

When the cows calve, they hide their calves for a week or ten days in some sequestered situation, and go and suckle them two or three times a day. If any person come near the calves, they clap their heads close to the ground, and lie like a hare in form, to hide themselves. This is a proof of their native wildness, and is corroborated by the following circumstance that happened to the writer of this narrative, who found a hidden calf, two days old, very lean, and very weak. On stroking its head, it got up, pawed two or three times like an old bull, bellowed very loud, stepped back a few steps, and butted at his legs with all its force: it then began to paw again, bellowed, stepped back, and butted as before; but knowing its intention, and stepping aside, it missed him, fell, and was so very weak that it could not rise, though it made several efforts. But it had done enough. The whole herd were alarmed, and coming to its rescue, obliged him to retire; for the dams will allow no person to touch their calves without attacking them with impetuous ferocity. When any one happens to be wounded, or is grown weak and feeble through age or weakness, the rest of the herd set upon it, and gore it to death.

The weight of the oxen is generally from 30 to 50 stones the four hind quarters, the cows about 30. The beef is finely marbled, and of excellent flavour\*.

There is scarcely any part of the ox that is not of some use to mankind. Boxes, combs, knife-handles, and drinking vessels, are made of the horns. These, when softened with boiling water, become so pliable, as to be formed into transparent plates for lanterns; an invention ascribed to King Alfred, who is said to have first used them to preserve his candle time-measures from the wind. Their dung is useful for manure. Glue is made of the cartilages, gristles, and the finer pieces of cuttings and parings of the hides, boiled in water till they become gelatinous, and the parts sufficiently dissolved, and then dried. The bone is a cheap substitute, in many instances, for ivory. The thinnest of the calves-skins are manufactured into vellum. The blood is used as the basis of Prussian blue. Sadlers and others use a fine sort of thread, prepared from the sinews, which is much stronger than any other equally fine. The hair is valuable in various manufactures, and the suet, fat, and tallow, for candles. The utility of the milk and cream is well known.

\* *Beauwick's Quadrupeds.*

From the circumstance of these animals furnishing the Gentoos with milk, butter and cheese, their favourite food, they bear for them a superstitious veneration, founded thus principally in gratitude. There is



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scarcely a Gentoo to be found that would not, were he under a forced option, prefer sacrificing his parents or children to the slaying of a bull or cow.

For the application of oxen to the purposes of agriculture, and for the best methods of rearing, breeding, and feeding cows and cattle, see AGRICULTURE; for an account of the internal structure of this genus, see Anatomy, Part IV. Chap. IV. Sect. III.; for the construction of byres or cow-houses, with some observations on the feeding of cows and calves, see FARRIERY Part IV.; and for the diseases incident to cattle, with their treatment, see the same article, Part VI.

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Grunniens,  
Yak of Tar-  
tary.  
Fig. 71.

3. *B. Grunniens*, Yak, or Grunting Ox.—The best account of this singular species is that given by Captain Turner, in his account of an embassy to Tibet. It is as follows.

The yak of Tartary, called *soora goy* in Hindostan, and which Captain Turner terms the *bushy-tailed bull of Tibet*, is about the height of an English bull, which it resembles in the general figure of the body, head, and legs. He could discover between them no essential difference, except that the yak is covered all over with a thick coat of long hair. The head is rather short, crowned with two smooth round horns, which, tapering from the root upwards, terminate in sharp points; they are arched inwards, bending towards each other, but near the extremities are a little turned back. The ears are small; the forehead appears prominent, being adorned with much curling hair; the eyes are full and large; the nose small and convex; the nostrils small, the neck short, describing a curvature nearly equal both above and below; the withers are high and arched. The rump is low; over the shoulder rises a thick muscle, which seems to be the same kind of protuberance peculiar to the cattle of Hindostan, covered with a profusion of soft hair, which in general, is longer and more copious than that along the ridge of the back to the setting on of the tail. The tail is composed of a prodigious quantity of long, flowing, glossy hair, and is so abundantly furnished, that not a joint of it is perceptible; but it has much the appearance of a large cluster of hair artificially set on; the shoulders, rump, and upper part of the body, are clothed with a sort of thick soft wool, but the inferior parts with straight pendant hair that descends below the knee; and Captain Turner has seen it so long in some cattle, which were in high health and condition, as to trail upon the ground. From the chest, between the legs, issues a large pointed tuft of straight hair, growing somewhat longer than the rest; the legs are very short; in every other respect he resembles the ordinary bull.

These cattle, though not large-boned, seem, from the profuse quantity of hair with which they are provided, to be of great bulk. They have a downcast heavy look, and appear, what indeed they are, sullen and suspicious, discovering much impatience at the near approach of strangers. They do not low loud like the cattle of Britain, any more than those of Hindostan, but make a low grunting noise, scarcely audible, and that but seldom, when under some impression of uneasiness. These cattle are pastured in the coldest parts of Tibet, upon the short herbage peculiar to the tops of mountains and bleak plains. The chain of mountains situ-

ated between the latitudes of 27° and 28°, which divides Tibet from Boutan, and whose summits are most commonly clothed with snow, is their favourite haunt. In this vicinity the southern glens afford them food and shelter during the severity of winter; in milder seasons, the northern aspect is more congenial to their nature, and admits a wider range. They are a very valuable property to the tribes of itinerant Tartars, called *Duck-ba*, who live in tents, and tend them from place to place; they at the same time afford their herdsmen an easy mode of conveyance, a good covering, and wholesome subsistence. They are never employed in agriculture, but are extremely useful as beasts of burden, for they are strong, sure-footed, and carry a great weight. Tents and ropes are manufactured of their hair, and amongst the humbler ranks of herdsmen, he has seen caps and jackets made of their skins. Their tails are esteemed throughout the east, as far as luxury and parade have any influence on the manners of the people; and on the continent of India they are found, under the denomination of *chowries*, in the hands of the meanest grooms, as well as occasionally in those of the first minister of state. They are in universal use for driving away winged insects, flies, and musketoos, and are employed as ornamental furniture upon horses and elephants; yet the best requital with which the care of their keepers is at length rewarded, for selecting them good pastures, is in the abundant quantity of rich milk which they give, and the butter produced from it, which is most excellent. It is their custom to preserve this in skins or bladders, and the air being thus excluded from it, it will keep in this cold climate throughout the year; so that, after some time tending their herds, when a sufficient store is accumulated, it remains only to load their cattle, and drive them to a proper market with their own produce, which constitutes, to the utmost verge of Tartary, a most material article of commerce.

Dr Pallas informs us, that the calves of this species, when first born, are covered with a strong woolly hair, resembling that of a water spaniel, and that in about three months they begin to acquire the long hair of the throat, lower parts, and tail.

This animal was described by Ælian, under the name of *Poephagus*.

This order contains eight genera and about 82 species.

#### CHAP. VI. BELLUÆ.

##### Genus 45. EQUUS. HORSE.

152  
Equus.

Front teeth in the upper jaw six, parallel. In the lower jaw, six, somewhat projecting. Canine teeth, one on each side, in both jaws, remote from the rest. Feet with undivided hoofs.

Dr Shaw enumerates six species, viz. 1. \* *Equus Caballus*, The Horse.—Tail uniformly covered with long hair.—2. *E. Hemionus*, Lickta. Of an uniform colour, without a distinct humeral cross, with naked tail haired at the tip.—3. \* *E. Asinus*, Ass. Blackish cross over the shoulders, and tail tipped with long hair.—4. *E. Zebra*, Zebra. Variegated with numerous dark brown stripes.—5. *E. Quagga*, Quagga. Rather rusty,



*Bellue.* ty, whitish below, striped above with brown. Spotted towards the hind parts.—*G. E. Bifalvus*, Cloven-footed H. With cloven hoofs.

163  
*Cabalus*,  
Common  
Horse.  
Fig. 72.

1. *Equus Caballus*, Common H.—Though it is in a state of domestication that we are chiefly to consider this most noble animal, we must first, however, mention a few circumstances respecting him in his native state of liberty.

Horses are found wild in several parts of the globe. Large herds of them are occasionally seen in the northern parts of Siberia, and in the great Mongolian deserts, and among the Kalkas to the north-west of China. They are also found in the deserts on each side the river Don; but it is supposed that these are descended from the Russian horses employed in the siege of Asoph, in the year 1697, who being turned loose for want of forage, escaped into the deserts, and their descendants have gradually acquired the appearance of native wildness.

The horse in its wild state is considerably smaller than most of our domestic horses, and possesses much less symmetry of form. He is extremely swift, active and vigilant, and like some other tribes of animals, these horses have always a sentinel, who by a loud neigh gives notice to the herd of approaching danger, when they all gallop off with astonishing rapidity.

In South America there are also found large herds of wild horses; but these are of Spanish origin, derived from those that were carried over by the first conquerors of America. They are now become so numerous as to live in herds, some of which are said to consist of 10,000. As soon as they perceive domestic horses in the fields, they gallop to them, caress, and by a kind of grave and prolonged neighing, invite them to run off. The domestic horses are soon seduced, unite themselves to the independent herd, and depart along with them. It happens not unfrequently that travellers are stopped on the road by the effect of this desertion. To prevent this, they halt as soon as they perceive these wanderers, watch their own horses, and endeavour to frighten away the others. In this case the wild horses resort to stratagem; some are detached before, and the rest advance in a close column, which nothing can interrupt. If they are so alarmed as to be obliged to retire, they change their direction, but without suffering themselves to be dispersed. Sometimes they make several turns round those they wish to seduce, in order to frighten them, but they often retire after making one turn. When the inhabitants wish to convert some of these wild horses into domestic ones, which they find not very difficult to be done, persons mounted on horseback attack a troop of them, and when they approach them, they throw stones with great care round their legs, which prevent them from running away. When brought home they are tied with a halter to a stake or tree, without food or drink, for two or three days. After this they are cut, and then broke in the same manner as the domestic horses. They soon become docile, but if not carefully watched, will again join their wild friends.

The attention with which the wild horses of Siberia protect their young, is finely exemplified in a communication by a gentleman in that country to the editor of the Bee. The wild horse, he says, though a grega-

rious animal, does not go in promiscuous flocks like cattle or sheep; but each male chooses for himself a certain number of females, with whom alone he associates during the whole year, beating off every other male which offers to approach them. The strongest of course has the best harem, and the weaker are obliged to go without any. But when he has once fixed himself, he defends his own property, never attempting to encroach on that of another. The battles that are fought for the females at the beginning of the season are furious, and often prove fatal to one of the parties; but when the victory is once decided, the weakest never afterwards for that season dispute for superiority.

The horse, when he has once obtained his females, governs them with despotic authority. Whenever he calls upon them they must obey, otherwise they are punished severely; and the mares are so sensible of this, that they discover every symptom of the most perfect obedience to their lord and master.

His government, however, is founded on love, and his authority is exercised, rather for the protection of his subjects, than their injury. The great enemy they have there to dread is the wolf; and if the horse did not take care to keep them close together, so as to receive the benefit of his protection, they would be soon exterminated. It is the foals only that the wolf ever attacks, and against his attacks they are much upon their guard. When they see any appearance of danger, the horse gives the call, and they all instantly gallop up to him. The foals are then put all together, and the mares laying their heads together above the foals, form a circle all round with their heels outward, ready to strike their enemy if he approaches. The horse in the mean time remains without the circle to be ready to attack wherever the danger shall be greatest. One wolf dares never make the attack by himself. When they come up, the horse gallops round his family, trampling to death every one he can reach, or tearing them with his teeth; and so strong is his bite when thus engaged, that they frequently have been known, with a single gnash of their teeth, to break the back of a wolf, and to kill him entirely. It seldom happens that the wolves prevail in this contest; and they so much dread the power of this noble animal, that they seldom make the attack unless when they are much pinched with hunger.

This breed of horses, though nimble and active, are not of a very large size. The hunting of these horses, which is only attempted by the natives for catching them alive, especially the young ones, is attended with difficulty and danger, and must not be attempted without due precautions\*.

In a domestic or improved state, the horse is found \* Bee, vol. xvii. p. 98. in almost every country of the world, except within the Arctic circle; but he is found in his highest perfection in Arabia, where he seems as little degenerated in his race and powers as the lion or tyger of the African forests. To the Arabian hordes the horses are as dear as their children; and the constant intercourse arising from living in the same tent with their owner and his family, creates a familiarity that could not otherwise be effected, and a tractability that arises only from the kindest usage. They are the fleetest animals of the desert, and are so well trained as to stop in their



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the Species

most rapid course, by the slightest check of the rider. Unaccustomed to the spur, the least touch with the foot sets them again in motion, and so obedient are they to the rider's will, as to be directed in their course merely by the motion of a switch. They form the principal riches of many of the Arab tribes, who use them both in the chase and in their plundering expeditions. In the day time they are generally kept saddled at the door of the tent, prepared for any excursion their master may take. They never carry any heavy burdens, or are employed on long journeys. Their constant food, except in spring, when they get a little grass, is barley, which they are suffered to eat only during the night. The Arab, his wife, and children, always lie in the same apartment with the mare and foal, who, instead of injuring them, suffer the children to rest on their necks and bodies without incommoding them in the least. The poor gentle animals even seem afraid to move lest they should hurt them. The Arabs never beat or correct their horses, but always treat them with the utmost kindness. They talk to and reason with them.

The whole stock of a poor Arabian of the desert consisted of a beautiful mare; this the French consul at Saïd offered to purchase, with an intention to send her to Louis XIV. The Arab, pressed by want, hesitated for a long time, but at length consented, on condition of receiving a very considerable sum of money, which he named. The consul wrote to France for permission to close the bargain, and having obtained it, sent immediately to the Arab the information. The man, so poor as to possess only a miserable rag, a covering for his body, arrived with his magnificent courser, and looking first at the gold, and then stedfastly at his mare, heaved a deep sigh. "To whom is it (he exclaimed) that I am going to yield thee up? To Europeans! who will tie thee close, who will beat thee, who will render thee miserable. Return with me, my beauty, my jewel! and rejoice the hearts of my children!" As he pronounced the last words, he sprang upon her back, and was out of sight almost in a moment.

The horses of France are thus characterized by Buffon. Those of Bretagne are pretty strongly made, and have generally black hair, or brown bay; and they have good legs and feet, with a hardy mouth, and a head short and fleshy, but in general they are rather clumsy. The horses of Franche Compté are said to have the legs of tygers, and belly of a hind; but they are short and thick, and of a middle size, being much more proper for drawing than riding. The horses of Gascony are not unlike those of Spain; but they are not so handsome nor so active, and therefore they are more proper to draw carriages. The Limosin horses are very vicious, and are good for little till they are six years old. Their colour is generally bay, or a bay brown. The horses of Normandy are much like those of Bretagne; and those of Poitou have good bodies, legs, feet and eyes, but they are far from being handsome.

The horses of Germany are much better and handsomer than those of the Low Countries. They are of great use for carriages, but much more for the army, and for drawing the artillery. They have a great deal of hair, especially about the legs. They are not large,

but they are well set, and yet they have tender feet. The Hungarian horses are excellent for the coach, as well as for riding; but they are large, though well proportioned; and they are of all colours, and in general very swift.

The Danish horses are low, short, and square; but they have a fine head, and short hair. The horses of the Low Countries are very fit for the coach, and they are best known by the name of *Flanders mares*. The Polish horses are like the Danish, only they have not so fine a forehead; their colour is generally a bright bay, and that of the outward peel of an onion, and they are fiery and vicious. The horses of Switzerland are pretty much like those of Germany, which is not surprising, since the Germans purchase a great number of them. The horses of Piedmont are fiery, of a middle size, and of all sorts of colours; their legs are good and handsome, their eyes fine, their ears small, and their mouths good; but they do not carry their heads well.

The horses of Naples and Italy are generally ill made and lean, and yet they are good and useful, for they are light and proper for racing, though not for a long course; they never do well in a colder climate. The Spanish horses are very well made and handsome, as well as very active and nimble; they have good eyes, handsome legs and heads, and are easily managed; they are also good for racing, if they are well kept; however they are not so good in northern climates as in their own country. The Turkish horses are of different shapes, but they are generally swift, though their mouths are bad. Most of them are white, though there are other colours, and they are large, hardy, strong, and fit for the road.

The horses of Barbary, commonly called *barbs*, have strong hoofs, and are more proper for racing than any others whatever; some have said they never grow old, because they preserve their vigour to the last. They are excellent stallions, and some of them are used as such in Britain; however, the Arabian horses are not quite so good as the Barbary, though some think they are both of the same kind; only those that are used to the deserts of Arabia are always in action. The horses of the Gold coast of Guinea are very few in number, and in other parts of that coast there are none at all; for many of the negroes, when they have been first brought over to our American plantations, have expressed great admiration at the sight of the horse, and even been afraid to come near one.

The horses of the Cape were originally brought from Persia, and they are small, of a chestnut colour, as the natives of that country are all wild, and could never be tamed. The horses of China are good, and more particularly those in the province of Yun Nan, for they are vigorous, though rather low. The horses of the Eluth Tartars are good and full of fire, and their size is much the same as that of the Polish horses; they are afraid of nothing, not even of lions and tygers, but this perhaps may be owing to use. In the country of the Mogul they are very numerous, and of all colours; they are generally of the middle size, though some are as large and handsome as those of Europe.

The breed of horses in Great Britain is as mixed as that of its inhabitants. The frequent introduction of foreign horses has given us a variety, that no single country

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Belluz. country can boast of; most other countries produce only one kind, while ours, by a judicious mixture of the several species, by the happy difference of our soils, and by our superior skill in management, may triumph over the rest of *Europe*, in having brought each quality of this noble animal to the highest perfection.

In the annals of *Newmarket*, may be found instances of horses that have literally outstripped the wind. *Childers* is an amazing instance of rapidity, his speed having been more than once exerted equal to  $82\frac{1}{2}$  feet in a second, or nearly a mile in a minute. The same horse has also run the round course at *Newmarket* (which is about 400 yards less than four miles) in six minutes and 40 seconds, in which case his fleetness is to that of the swiftest *Barb* as four to three. This horse was allowed to be the fleetest that was ever bred in the world; he started repeatedly at *Newmarket* against the best horses of his time, and was never beaten. He won in different prizes to the amount of nearly 2000*l.* and was afterwards reserved as a stallion. His sire was an Arabian, sent by a gentleman as a present to his brother in England. Next to *Childers* was the famous *Eclipse*, who won prizes to a great amount. *High-flier* was accounted the best horse of his time in England. Though he never started after he was five years old, he won to the amount of nearly 9,000*l.* He was never beaten, nor ever paid a forfeit. *Bay Malton*, the property of the late marquis of Rockingham, won, in seven prizes, nearly 6000*l.* At York he ran four miles in less than eight minutes.

One of the most remarkable instances of the work done by post-horses in a short time, is that mentioned by Buffon, of the post-master of Stretton, who in the year 1745, rode on different horses along the London road no less than 215 miles in 11 hours and a half; a rate of above 18 miles an hour. In July 1788, a horse belonging to a gentleman of Billeter square, London, was, for a wager, trotted 30 miles in an hour and 25 minutes, which is above 21 miles in an hour.

No country can be compared with ours with respect to the strength and size of draught horses, and for the activity and strength of those that form our cavalry. In London there have been instances of a single horse drawing, for a short space, the weight of three tons; and some of the pack-horses of the north usually carry burdens weighing upwards of 400*lb.* But the most remarkable proof of the strength of the British horses is in our mill horses, some of which have been known to carry, at one load, 13 measures of corn, that in the whole would amount to more than 900*lb.* in weight. Our cavalry in the late campaigns, showed over those of our allies, as well as the French, a great superiority both of strength and activity: the enemy was broken through by the impetuous charge of our squadrons, while the German horses, from their great weight, and inactive make, were unable to second our efforts, though those troops were actuated by the noblest ardour. The present cavalry of this island only supports its ancient glory; it was eminent in the earliest times: our scythed chariots, and the activity, and good discipline of our horses, even struck terror into *Cæsar's* legions. It is now impossible to trace out this species, for those which exist among the indigene of *Great Britain*, such as the little horses of *Wales* and *Cornwall*, the hobbies of *Ireland*, and the shelties of *Scotland*, though admirably well

adapted to the uses of those countries, could never have been equal to the work of war. Those we employ for that purpose, or for the draught, are an offspring of the *German* or *Flemish* breed, meliorated by our soil, and a judicious culture.

The English were ever attentive to an exact culture of these animals, and in very early times set a high value on their breed. The esteem that our horses were held in by foreigners so long ago as the reign of *Athelstan*, may be collected from a law of that monarch prohibiting their exportation, except they were designed as presents. These must have been the native kind, or the prohibition would have been needless, for our commerce was at that time too limited to receive improvement from any but the German kind, to which country their own breed could be of no value.

But when our intercourse with the other parts of Europe was enlarged, we soon laid hold of the advantages this gave of improving our breed. *Roger de Belleme*, earl of Shrewsbury, is the first that is upon record. He introduced the Spanish stallions into his estate in *Powisland*, from which that part of Wales was for many ages celebrated for a swift and generous race of horses. *Giraldus Cambrensis*, who lived in the reign of Henry II. takes notice of it, and *Michael Drayton*, cotemporary with Shakespeare, sings their excellence in the 6th part of his *Polyolbion*. This kind was probably destined to mount our gallant nobility, our courteous knights for feats of chivalry, in the generous contests of the tilt-yard. From these sprung, to speak the language of the times, the flower of coursers, whose elegant form added charms to the rider, and whose activity and managed dexterity gained him the palm in that field of gallantry and romantic honour. That this was the chief object of cultivating the mixed breed, is very probable, for racing in its present form was not introduced into England till the reign of James I. the earliest notice of the diversion being in that reign. *Croyden* in the south, and *Garterly* in Yorkshire, were then famous horse courses. That it was not in vogue in the preceding reign, is reasonable to imagine, for among the numerous entertainments exhibited at *Kenelworth* by Elizabeth's favourite on her visit there, and where no amusement then practised was omitted, we do not find horse-racing among them.

Not that we deny this diversion to be known in these kingdoms in earlier times; we only assert a different mode of it, gentlemen being then their own jockies, and riding their own horses. Lord Herbert of Cherbury enumerates it among the sports that gallant philosopher thought unworthy of a man of honour. "The exercise (says he) I do not approve of, is running of horses, there being much cheating in that kind; neither do I see why a brave man should delight in a creature whose chief use is to help him to run away."

As no kingdom can boast of parallel circumstances, so none can vie with us in the number of these noble quadrupeds. It would be extremely difficult to guess at the exact number of them, or to form a periodical account of their increase; the number seems very fluctuating. Mr William Fitz-Stephen relates, that in the reign of King Stephen, London alone poured out 20,000 horsemen in the wars of those times; yet we find that in the beginning of Queen Elizabeth's reign, the whole kingdom could not supply 2000 horses to form



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Form our cavalry; and even in the year 1588, when the nation was in the most imminent danger from the Spanish invasion, all the cavalry which the nation could then furnish amounted only to 3000. To account for this difference we must imagine, that the number of horses which took the field in Stephen's reign was no more than an undisciplined rabble; the few that appeared under the banners of Elizabeth, a corps well formed, and such as might be opposed to such a formidable enemy as was then expected. But such is their present increase, that in a late war, the number employed was 13,375; and such is our improvement in the breed of horses, that most of those which are used in our waggons and carriages of different kinds, might be applied to the same purpose. Of those our capital alone employs near 22,000.

Of all quadrupeds, says Buffon, the horse, together with grandeur of stature, possesses the greatest elegance and proportion of parts. If we compare him with the animals immediately above and below him, we shall find that the ass is ill-made; that the head of the lion is too large; the limbs of the ox too short and slender; that the camel is deformed, and the elephant a shapeless mass. The regularity and proportion of the parts of his head, give him a light and sprightly aspect, which is well supported by the beauty of his chest. He elevates his head as if anxious to exalt himself above the condition of quadrupeds, and in this noble attitude he beholds man face to face.

We shall here give Buffon's description of what he considers as a perfect horse; but that this and similar descriptions may be better understood, we shall premise an explanation of the technical terms commonly employed in describing a horse. The figures prefixed to the terms refer to fig. 72. Plate CCCXIII. *The fore part.* 1. The forehead. 2. The temples. 3. Cavity above the eye. 4. The jaw. 5. The lips. 6. The nostrils. 7. The tip of the nose. 8. The chin. 9. The beard. 10. The neck. 11. The mane. 12. The fore-top. 13. The throat. 14. The withers. 15. The shoulders. 16. The chest. 17. The elbow. 18. The arm. 19. The plate vein. 20. The chestnut. 21. The knee. 22. The shank. 23. The main tendons. 24. The fetlock joint. 25. The fetlock. 26. The pastern. 27. The coronet. 28. The hoof. 29. The quarters. 30. The toe. 31. The heel.—*The body.* 32. The reins. 33. The fillets. 34. The ribs. 35. The belly. 36. The flanks.—*The hind part.* 37. The rump. 38. The tail. 39. The buttocks. 40. The haunches. 41. The stifle. 42. The thighs. 43. The hock. 44. The kerb. 45. The point of the hock.

When the horse is without blemish, says Buffon, the legs and thighs are clean, the knees straight, the shin and shank thin, and the back sinew strong and well braced. The sinews and the bones should be so distinct, as to make the legs appear thin and lathy, not full and round. The pastern joints should never be large and round; nor must there be any swelling near the coronet. The hock should be lean and dry, not puffed up with wind. With regard to the hoof, the coronet should be equally thick, and the horn shining and grayish. A white horn is a sign of a bad hoof, for it will wear out in a short time; and likewise when the horn is thin, it is liable to be spoiled in shoeing, and by travelling hard

on stony grounds. This is best known when the shoe is taken off, for then the verge all round the sole will appear thin, and the horse will wince at the least touch of the pincers. Belluc.

A strong foot has the fibres of the hoof very distinct running in a direct line from the coronet to the toe, like the grain of wood. In this case, care must be taken to keep the foot moist and pliable. The greatest inconvenience attending a hard strong foot, is its being subject to rifts and fissures, which cleave the hoof quite through sometimes from the coronet down to the bottom.

A narrow heel is likewise a defect; and when it is not above two fingers in breadth, the foot is bad. A high heel causes a horse to trip and stumble often; and the low one, with long yielding pasterns, is very apt to be worn quite away on a journey. Too large a foot in proportion to the rest of the body, renders a horse weak and heavy.

The head of a horse should be small, and rather lean than fleshy. The ears should be small, erect, thin, sprightly, and pointed. The forehead, or brow, should have a star or snip thereon. The nose should rise a little, and the nostrils should be wide that he may breathe more freely. The muzzle should be small, and the mouth neither too deep nor too shallow. The jaws should be thin, and not approach too near together at the throat, nor too high upwards towards the onset, that the horse may have sufficient room to carry his head in an easy graceful posture. The eyes should be of a middle size, bright, lively, and full of fire. The tongue should be small, that it may not be too much pressed on by the bit; and it is a good sign when his mouth is full of white froth, as it shews that he will not soon be overheated.

The neck should be arched towards the middle, growing smaller by degrees from the breast and shoulders to the head. The hair of the mane should be long, small, and fine, and it will not be amiss if it be a little frizzled. The shoulders should be pretty long, the withers thin, and should gradually enlarge downwards, but so as to render the breast neither too narrow nor too thick. A thick-shouldered horse soon tires, and trips and stumbles every minute, especially if he has at the same time a thick, large neck. When the breast is so narrow that the fore thighs almost touch, the horse is never good for much. A horse of a middle size should have the distance of five or six inches between his fore thighs, and there should be less distance between his feet than his thighs near the shoulders when he stands upright.

The body or carcass of a horse should be of a middling size in proportion to his bulk, and the back should sink a little below the withers; but the other parts should be straight, and no higher behind than before. He should also be home-ribbed, but the short ribs should not approach too near the haunches, and then he will have room to fetch his breath. When a horse's back is short in proportion to his bulk, and yet otherwise well limbed, he will hold out a journey, though he will travel slow. When he is tall, with very long legs, he is but of little value.

The wind should never be overlooked in the choice of a horse, and it may easily be known by his flanks, whether he is broken-winded, when he stands quiet in the stable;



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ble; because then he always pinches them in with a very slow motion, and drops them suddenly. A thick-winded horse fetches his breath often, and sometimes rattles and wheezes. This may be always discovered when he is put to brisk exercises.

The temper of a horse should always be observed; a vicious horse generally lays his ears close to his pole, shows the whites of his eyes, and looks fullen and dogged. An angry horse may be known by his frowning looks; and he generally seems to stand in a posture of defence. When he is very vicious, he pays no regard to the groom that feeds him, though some horses that are ticklish will lay back their ears, without being of a bad disposition. A fearful horse is apt to start, and never leaves off till he is old and useless. A fretful horse is very unfit for a journey, and you may discover his temper as soon as he gets out of the stable. A dull, heavy, sluggish horse may be easily known, whatever tricks are used to rouse his spirits. With regard to the colour of a horse, the bright bay, and indeed all bays in general, are accounted good colours. The chestnut horse is generally to be preferred to the sorrel, unless the former happens to be party-coloured with white legs. Brown horses have generally black manes and tails, and their joints are of a rusty black. Those of this colour that are dapple are much handsomer than the rest. Horses of a shining black, and well marked without too much white, are in high esteem for their beauty. A star, or blaze, or white muzzle, or one or more feet tipped with white, are generally thought to be rather better than those that are quite black.

Of grays, the dappled are accounted best, though the silver gray make a more beautiful appearance, and often prove good. The iron gray with white manes and tails, are thought not to be so hardy. Grays of every kind will turn white sooner or later; but the nutmeg gray, when the dappled parts incline to bay or chestnut, are said to be good hardy horses. Roan horses have a diversity of colours mixed together; but the white is more predominant than the rest. They are all generally hardy, and fit for the road; and some are exceeding good. Those of a strawberry colour most resemble the sorrel, and they are often marked with white on the legs and face. When the bay is blended with it, he seems to be tinged with claret, and some of these prove to be very good. Dun, fallow, and cream-coloured horses have a list down their backs, and their manes and tails are black. Dun horses are seldom chosen by gentlemen, and yet they may be very useful to the country farmer. The fallow and cream-coloured are more esteemed, both for beauty and use. Those horses that are finely spotted with gray colours like leopards are a great rarity, and for that reason they are only in the hands of great men.

As in this country the form of the race-horse is more particularly attended to, we shall give the following rules for the best proportions of race-horses, as laid down by Mr Feron.

“It has been observed by several authors, with good authority, that the head of a horse, divided into 22 equal parts, is the common measure for every part of the body; but if the head should appear too long or too short, that measure must be abandoned, to take the height of the body from the top of the withers to the

ground. The third part of this measure will give you a just length for every other part of the body, and will shew you likewise how much the head was defective.

“A horse well made and beautiful in his fore hand, should measure 3 heads and 16 parts from the top of the head to the ground, the head standing in its natural position—the neck should measure one head and 13 parts from the withers to the top of the head,—the same measure gives the length of the neck from the top of the head to its termination in the chest—the height of the body should measure three heads from the withers to the ground—we observe the same measure from the rump to the ground,—the length of the body should measure three heads and four parts, from the point of the shoulder to the posterior part of the buttock.

“The line which falls from the articulation of the shoulder with the arm, should measure two heads and seven parts. This line must directly touch the hoof in front of the toe. If the foot should stand before this line, the leg will be in an oblique direction forward, which structure will confine the horse in all his actions, because the fore legs are obliged to come upon the ground nearly the same way as those of a horse going down hill; that is to say, the heels will touch the ground first, instead of the toes; but if the legs stand obliquely backwards from above, which is the opposite defect, the case is a great deal worse, because the animal is continually stumbling or even falling, on account of his feet being drawn too much under the belly, which situation obliges him to support too great a weight of the body. When this defect originates from the knees only, it bends the legs more or less, in which case the horse is called bow-legged. In either case such an animal must be rejected, and considered as unfit for a racer.

“The line which falls from the top of the fore leg to the point of the heel, should measure one head and 20 parts. This line is extended to shew the perfect perpendicular position of the whole limb. The distance from the top of the withers to the stifle should measure one head and 20 parts; the same measure gives the distance from the rump to the elbow, or *vice versa*. The width of the neck should measure one head, taken from the top of the withers to the point of the shoulder.

“The narrowest part of the neck, and the breadth of the head taken a little below the eyes, measures 12 parts of a head each. The thickness of the body, from the middle of the back to the middle of the belly, should be one head and two parts. The same line continued to the ground, shews the centre of gravity of the horse's body. The distance from the root of the tail to the stifle, should measure one head and four parts. The same measure gives the length from the stifle to the hock. The same measure gives the distance from the hock to the ground. The breadth of the fore-arm, taken from the anterior parts of the elbow, should measure 11 parts of a head. The same measure gives the breadth of one of the hind-legs, taken just under the fold of the buttocks. The breadth of the hock, taken from its anterior part to the top of the os calcis, should measure seven parts of a head. The same measure gives the breadth of the head above the nostrils, measured sideways.

“The breadth of the head, taken from one eye to the other,



History of other, should measure seven parts of a head. The same measure should give the distance between the fore legs. The thickness of the knees should measure five parts of a head. The same measure gives the breadth of the fore legs, just above the knees. The breadth of the hind fetlock joints should measure four parts of a head. The breadth of the fore pasterns should measure 2½ parts of a head. The breadth of the coronet should measure 4½ parts of a head. The breadth of the hinder legs or flank bones, should measure three parts of a head. The breadth of the fore legs should measure 2½ parts of a head. The perpendicular line which falls from the articulation of the flille, should touch the ground at the distance of half a head from the toe. Too far or too near this direction, proves the hock defective. If the hind feet advance too much under the belly, the hocks must be proportionably bent, and the weight of the body overcharging them, will of course increase the deformity. The feet being too much under the belly, will render it impossible for them to cover much ground; therefore their steps will be very much confined. The extension of the hocks terminating almost in an upright direction, will rather serve to raise the body than to push it forward. If, on the contrary, the hind feet stand too far behind this line, the hocks will be too straight, and their flexion too confined. The extension of the hinder parts taking place, only in a perpendicular direction backward, will produce a defect capable of retarding their speed \*.

\* Ferri's  
Farriery,  
p. 28.

The flesh of the horse is dark and coarse; but it has appeared from the accounts we have of long sieges, that it may be employed for food, and we are assured that it is by no means unpalatable. In fact, in some countries it is employed as food from choice. In the medical dictionary of the *Encyclopédie Methodique*, art. *Cheval*, tom. iv. p. 696, is a curious account of the mode of preparing an extraordinary part of this animal, that forms an ingredient in ragouts, with which some of the Mogul Tartars regale themselves in their most splendid entertainments.

The chief use to which the remains of the horse can be applied, is for collars, traces, and other parts of the harness; and thus, even after death, he preserves some analogy with his former employment. The hair of the mane is sometimes used in making wigs; that of the tail in making the bottoms of chairs, floor cloths, and cords, and to the angler in making lines.

For several other particulars respecting the horse, especially on the use of that animal among the Jews, on the management of horses upon and after a journey, and on the breeding of horses, see the article HORSE. On the use of horses in husbandry, with a comparative view of the profits arising from them and oxen, see the article AGRICULTURE, Part III.; for a short account of the anatomical structure of the horse, see FARRIERY, Part II.; for various methods of shoeing horses, and several other operations, see the same article, Part III.; for the best method of constructing stables, and the most proper food of horses, see Part IV. and for the description and treatment of the diseases incident to horses, with the remedies employed, see Parts VI. and V. of the same article; and for the art of riding, training, and managing horses, see HORSEMANSHIP.

3. *E. Asinus*, the Ass.—It is unnecessary to describe the appearance of the domestic ass; but as this animal

in his native state of wildness differs considerably from him who is the slave of man, we shall give a short description of the wild ass.

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Its usual colour is said to be white, or a pale silvery gray, with a slight shade of straw colour on the sides of the neck and body. Along the back runs a deep brown stripe of thickish wavy hair, to the beginning of the tail; this stripe is crossed over the shoulders, as in the tame animal, by another of similar colour; but it is said that this is peculiar to the male. The neck is furnished with a brown mane three or four inches long, consisting of soft woolly hair; the tail is tufted at the end by dusky hairs of about six inches in length; the forehead is arched, and the ears erect, pointed, and lined internally with white curling hairs. It stands higher on its limbs than the domesticated animal, and its legs are more slender in proportion. The hair on the whole body is very fine, bright, soft, and silky; and on some parts is marked by a few obscure undulations of a darker shade than the rest. Those which are found in Africa are said to be of a pale ash colour, rather than of the cast above described.

The food of the wild ass consists chiefly of saline, or bitter and lactescent plants. It is also fond of salt or brackish water. The manners of these animals very much resemble those of the wild horse. They assemble in troops under the conduct of a leader, and are extremely shy and vigilant, and, like the former animals, dart off with the utmost rapidity on the sight of mankind. They have been at all times celebrated for their swiftness. Their voice resembles that of the common ass, but is somewhat shriller.

Wild asses are found in several parts of Asia, especially in the dry and mountainous deserts of Tartary, and in the southern parts of India and Persia. Large herds of them are also found in South America, where they were originally introduced by the Spaniards, and as the climate seems peculiarly favourable to them, they have multiplied to so great a number, as in some places to have become quite a nuisance. In the kingdom of Quito they are hunted for the purpose of domestication, and the hunting is conducted in the following manner.

A number of persons go on horseback, and are attended by Indians on foot. When arrived at the proper places, they form a circle in order to drive them into some valley, where, at full speed they throw the noose and endeavour to halter them. The creatures, finding themselves inclosed, make very furious efforts to escape; and if only one forces his way through, they all follow with an irresistible impetuosity. However, when noosed, the hunters throw them down and secure them with fetters, and thus leave them till the chase is over. Then, in order to bring them away with greater facility, they pair them with tame asses; but this is not easily performed, for they are so remarkably fierce, that they often wound the persons who undertake to manage them.

They have all the swiftness of horses, and neither delicacies nor precipices can retard their career. When attacked, they defend themselves with their wheels and mouth with such address, that without slackening their pace, they often maim their pursuers. But the most remarkable property in these creatures is, that, after carrying their first load, their celerity leaves them, their dangerous



*Bellux.* dangerous ferocity is lost, and they soon contract the stupid look and the dullness peculiar to their species. It is also observable that these creatures will not permit a horse to live among them. They always feed together, and if a horse happens to stray into the place where they graze, they all fall upon him, and without even giving him the choice of flying, bite and kick him till they leave him dead on the spot.

Though the ass is at present naturalized in this country, his introduction into Britain seems to have been very late, as he was entirely lost among us during the reign of Queen Elizabeth, when, as Hollinshed informs us, "our lande did yeelde no asses." There is, however, no reason to suppose that the ass was unknown among us some hundred years before, as we find mention made of him so early as the time of Athelred, and again in the reign of Henry III. so that the loss of them during the reign of Queen Elizabeth must have been owing to some accident. They were probably introduced again under the succeeding reign, when we renewed our intercourse with Spain, in which country this animal is much used, and where it has been brought to great perfection.

The qualities of this animal are so well known as to need no description. His gentleness, patience, and perseverance, are without example. He is temperate with regard to food, and eats contentedly the coarsest and most neglected herbage. If he give the preference to any vegetable, it is to the plantane, for which he will neglect every other herb in the pasture. In his water he is singularly nice, drinking only from the clearest brooks. He is so much afraid of wetting his feet, that, even when laden, he will turn aside to avoid the dirty parts of the road.

He is stronger, in proportion to his size, than the horse, but more sluggish, stubborn, and untractable. He is healthier than the horse, and of all other quadrupeds is least infested with lice or other vermin; probably owing to the extreme hardness and dryness of his skin. For the same reason, perhaps, he is less sensible of the goads of the whip, or the stinging of flies.

He is three or four years in coming to perfection, and lives to the age of 20, or sometimes 25 years. He sleeps much less than the horse, and never lies down for that purpose but when he is much fatigued. The she-ass goes 11 months with young, and seldom produces more than one at a time.

In pleading the cause of this injured and neglected animal, we cannot do better than copy the eulogy of the abbé la Pluche.

"I confess (says he) that the ass is not master of very shining qualities, but then he enjoys those that are very solid. If we resort to other animals for distinguished services, this at least furnishes us with such as are most necessary. His voice is not altogether melodious, nor his air majestic, nor his manners very lively; but then a fine voice has very little merit with people of solidity. With him the want of a noble air has its compensation in a mild and modest countenance; and instead of the boisterous and irregular qualities of the horse, which are frequently more incommensurable than agreeable, the behaviour of the ass is entirely simple and unaffected; no supercilious and self-sufficient airs. He marches with a very uniform pace, and though he is not extraordinarily swift, he pursues his journey for a

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long time, and without intermission. He finishes his work in silence, serves you with a steady perseverance, and discovers no ostentation in his proceedings, which is certainly a considerable accomplishment in a domestic. His meat requires no preparation, for he is perfectly well contented with the first thistle that presents itself in his way. He does not pretend that any thing is due to him, and never appears squeamish or dissatisfied: he thankfully accepts whatever is offered to him; he has an elegant relish for the best things, and very civilly contents himself with the most indifferent. If he happens to be forgotten, or is fastened a little too far from his fodder, he entreats his master, in the most pathetic language he can utter, to be so good as to supply his necessities. It is very just that he should live, and he employs all his rhetoric with that view. When he has finished his expostulations, he patiently waits the arrival of a little bran, or a few withered leaves; and the moment he has dispatched his meal, he returns to his business, and marches on without a murmur or reply. His occupations have a tinge of the meanness of those who set him to work; but the judgements that are formed, both of the ass and his master, are equally partial. The employments of a judge, a man of consequence, and an officer of the revenue, have an important air, and their habit imposes on the spectators. On the contrary, the labour of the peasant has a mean and contemptible appearance, because his dress is poor and his condition despised. But we really make a false estimation of these particulars. It is the labour of the peasant which is most valuable, and alone truly necessary. Of what importance is it to us when a manager of the revenue glitters from head to foot with gold? We have no advantage from his labours. I confess, judges and advocates are, in some measure necessary, but they are made so by our folly and misbehaviour; for they would no longer be wanted, could we conduct ourselves in a rational manner. But, on the other hand, we could on no account, and in no season or condition of life, be without the peasant and the artisan. These people may be considered as the souls and sinews of the community, and the support of our life. It is from them we are constantly deriving some accommodations for our wants. Our houses, our habits, our furniture, and our sustenance rise from their labours. Now, what would become of your vine-dressers, gardeners, masons, and the generality of country people, that is to say, of two thirds of all mankind, if they were destitute of men and horses to convey the commodities and materials which they employ and manufacture? The ass is perpetually at their service; he carries fruit, herbs, coal, wood, bricks, tiles, plaster, lime, and straw. The most abject offices are his ordinary lot, and it is as singular an advantage to this multitude of workmen, as well as to ourselves, to find a gentle, strong, and indefatigable animal, who, without expence or pride, furnishes our cities and villages with all sorts of commodities. A short comparison will complete the illustration of his services, and in some measure raise them from their obscurity. The horse very much resembles those nations who are fond of glitter and hurry; who are perpetually singing and dancing, and extremely studious to set off their exterior, and mix gaiety in all their actions. They are admirable on some distinguished and decisive occasions, but their fire frequently degenerates into ro-



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martic enthusiasm; they fall into wild transports; they exhaust themselves, and lose the most favourable conjunctures for want of management and moderation. The ass, on the contrary, resembles those people who are naturally heavy and pacific, whose understanding and capacity are limited to husbandry or commerce, and who proceed in the same track without discomposure, and complete, with a positive air, whatever they have once undertaken."

The skin of this animal is very hard and elastic, and may be used for drums, shoes, and many other purposes. It is, we believe, seldom employed, except for the leaves of pocket memorandum books. The flesh of the wild ass is said to be good food, and easy of digestion.

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Mule.  
Fig. 74.

The he-ass and the mare readily breed together, but the commerce between the stallion and the she-ass is said to be difficult. The produce of either connexion is the common mule, an animal superior both to the horse and ass for travelling over wild and mountainous tracts of country.

The common mule is very healthy, and will live above 30 years. It is found very serviceable in carrying burthens, particularly in mountainous places, where horses are not so sure-footed. The size and strength of our breed have lately been much improved by the importation of Spanish male asses; and it were much to be wished, that the useful qualities of this animal were more attended to; for, by proper care in its breaking, its natural obstinacy would in a great measure be corrected; and it might be formed with success, for the saddle, the draught, or the burthen.

People of the first quality in Spain are drawn by mules, where 50 or 60 guineas is no uncommon price for one of them; nor is it surprising, when we consider how far they excel the horse in travelling in a mountainous country, the mule being able to tread securely where the former can hardly stand. Their manner of going down the Alps, Andes, &c. is very extraordinary. In these passages, on one side, are steep eminences, and on the other frightful abysses; and as they generally follow the direction of the mountain, the road, instead of lying in a level, forms at every little distance steep declivities of several hundred yards downward. These can only be descended by mules, and the animal itself seems sensible of the danger, and the caution to be used in such descents. When they come to the edge of one of these precipices, they stop without being checked by the rider, and if he inadvertently attempt to spur them on, they continue immovable. They seem all this time ruminating on the danger that lies before them, and preparing themselves for the encounter. They not only attentively view the road, but tremble and snort at the danger. Having prepared for the descent, they place their fore feet in a posture as if they were stopping themselves; they then also put their hind feet together, but a little forward, as if they were going to lie down. In this attitude, having as it were, taken a survey of the road, they slide down with the swiftness of a meteor. At this time, all the rider has to do is to keep himself fast on the saddle without checking the reins, for the least motion is sufficient to destroy the equilibrium of the mule, in which case both he and his rider would perish. The address of these animals in this rapid descent is truly wonderful, for in their swiftest motion, when they seem to have lost all government of themselves, they follow ex-

actly the different windings of the road, as if they had previously settled in their minds the route they were to follow, and had taken every precaution for their safety. On these occasions the natives place themselves along the sides of the mountains, and holding by the roots of trees, they animate the beasts with shouts, and encourage them to persevere. Some mules after having been long used in such journeys, acquire a sort of reputation for their safety and skill, and their value rises in proportion to their celebrity\*.

\* Bewick's

Mules very rarely breed among each other, or with horses or asses, but a few instances of this kind have occurred.

4. *E. Zebra*, the Zebra.—This may be considered as the most beautiful animal of the horse tribe, but it is that species with which we are least acquainted. It is wild in its nature, and so swift in its motions, that it can seldom be taken.

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Fig. 75.

In size the zebra commonly equals the ass, and it is often considerably larger. Its form is much more elegant than that of the ass; its head and ears being well shaped, and of a moderate size. What, however, chiefly distinguishes this animal, is the beauty and symmetry of its colours. The ground of the skin is either a pure white, or cream colour, sometimes with a slight shade of buff, or a pale rusty tinge, and the skin is ornamented on every part with numerous stripes of a black or blackish brown colour, disposed with the greatest regularity, so as to produce an appearance as if the animal were decorated with dark ribbands. These stripes run transversely on the body and limbs, and in a longitudinal direction down the face. The tail is moderately long, round, rather slender, marked with small blackish bars, and terminated by a pretty thick tuft of a blackish or brown colour.

The zebra is chiefly confined to the hotter parts of Africa, from Ethiopia to the Cape of Good Hope, where there are large herds. In manners they resemble the wild horse and ass, and are excessively swift and vigilant.

All attempts to tame this animal, so as to render it serviceable, have been hitherto fruitless. Wild and independent by nature, it seems ill adapted to servitude and restraint. If, however, it were taken young, and much care was bestowed on its education, it might very probably be in a great measure domesticated. A beautiful male zebra, at Exeter change, London, which was afterwards burnt to death by the mischievous act of a monkey setting fire to the straw on which he lay, appeared to have entirely lost his native wildness, and was so gentle as to suffer a child of six years old to sit quietly on his back, without exhibiting the least sign of displeasure. He was familiar even with strangers, and received those kind of caresses that are usually given to the horse with evident satisfaction.

One that was, some years ago, kept at Kew, seemed of a savage and fierce nature; no one dared venture to approach it, except the person who was accustomed to feed it, and who alone could mount on its back. Mr Edwards saw this animal eat a large paper of tobacco, paper and all; and was told it would eat flesh, and any kind of food whatever that was given it. This, however, might proceed from habit or necessity in its long voyage to this country; for in a native state

these



Bellæ.

these animals all feed, like horses and asses, on vegetables.

In some parts about the Cape, where there are many zebras, there is a penalty of fifty six-dollars inflicted on any person who shoots one of them; and wherever any of them happen to be caught alive, they are ordered to be sent to the governor.

It has been found that the zebra and the ass will breed together. For the purpose of ascertaining this, an experiment was made in the year 1773 with a zebra that belonged to Lord Clive. No account of this experiment appeared till Mr Nicholson published the substance of some answers made by Mr Parker to a set of questions proposed by Sir Joseph Banks.

The zebra was first covered by an Arabian horse. For this purpose it was found necessary to bind her, and she shewed great disgust. As she did not conceive, an English ass was procured, to which she shewed a degree of aversion, scarcely if at all less than to the horse, and was subjected to him by the same means. The result of this trial not being more favourable than the other, recourse was had to the extraordinary expedient of painting another ass so as to resemble the zebra. Complete success attended this deception. When the animals were put together, the zebra at first appeared shy, but she received the embraces of the painted ass, and conceived. The offspring was a fine large male foal, which was just turned of six months old at the time of inquiry, namely, December 1773. It resembled both parents; the father as to make, and the mother as to colour; but the colour was not so strong, and the stripes on the shoulders were more conspicuous than on any other part. In answer to a question directed to that object, the relater states it as his opinion, that it would very probably propagate its species, as it did not appear at all to be like a mule.

In the course of the year after this information was received, his lordship died suddenly, and the collection of animals was disposed of. Sir Joseph Banks was then absent from town; and upon his return he was prevented by this circumstance, either from purchasing the animals, or acquiring any further information respecting the foal \*.

## Genus 46. HIPPOPOTAMUS.

\* Nichol.  
Journ. 4to.  
vol. II.

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Hippopotamus.  
Fig. 77.

Four front teeth in each jaw, the upper standing distant in pairs, lower prominent, the two middle longest; canine teeth solitary, lower extremity large, long, curved, and obliquely truncated; feet armed at the margin with four hoofs.

There is only one species, viz. *H. Amphibius*, the Hippopotamus, Hippopotame, or River-Horse.—The head of this animal is of an enormous size, and the mouth extremely wide. The ears are small and pointed, and very thickly lined within with short fine hairs. The eyes and nostrils are small in proportion to the bulk of the animal; on the lips are some strong hairs scattered in patches here and there. The hair on the body is very thin, of a whitish colour, and scarcely discernible at first sight. There is no mane on the neck, as some writers affirm, but the hairs on that part are rather thicker. The skin is very thick and strong, and of a dusky colour. The tail is about a foot long, tapering, compressed, and naked; the hoofs

are divided into four parts. The legs are short and thick. In bulk it is second only to the elephant, and by some writers, is said even to be superior to him. The length of a male has been found to be 17 feet, the circumference of the body 15, the height nearly seven, the legs nearly three, the head three and a half, and the girth nearly nine. The mouth, when open, is above two feet wide, and furnished with 44 teeth of different figures. The cutting, and particularly the canine teeth of the lower jaw, are very long, and exceedingly hard and strong. The substance of the canine teeth is so white, fine, and hard, that it is preferred to ivory for making artificial teeth. The cutting teeth, especially those of the under jaw, are very long, cylindrical, and chamfered. The canine teeth are also long, crooked, prismatic, and sharp, like the tusks of the wild boar. The grinders are square, or oblong, like those of man, and so large that one of these teeth sometimes weighs three pounds. The tusks according to Dr Sparrman, are 27 inches long. With such powerful arms, and such a prodigious strength of body, the hippopotamus might render himself formidable to every animal. But he is naturally of a mild disposition, and is formidable only when provoked. His bulk is so great that 12 oxen have been found necessary to draw ashore one that had been shot; and it is said that the hide is a load for a camel. Though he delights in the water, and appears to live in it as easily as on land, he has not, like the beaver, or otter, membranes between his toes. The great size of his belly renders his specific gravity nearly equal to that of water, and enables him to swim with ease.

These animals inhabit the rivers of Africa, from the Niger to Berg river, many miles north of the Cape of Good Hope. They formerly abounded in the rivers nearer the Cape, but are now almost extirpated; and to preserve the few which are left in Berg river, the governor absolutely prohibited the shooting of them without particular permission. They are not found in any of the African rivers that run into the Mediterranean, except in the Nile, and even there only in Upper Egypt, and in the fens and lakes of Ethiopia, through which the Nile passes. From the unwieldiness of his body and the shortness of his legs, the hippopotamus is not able to move fast upon land, and is there extremely timid. When pursued, he takes to the water, plunge in, sinks to the bottom, and is seen walking there at ease; he cannot, however, continue there long, without rising towards the surface; and in the day-time is so fearful of being discovered, that when he takes in fresh air the place is hardly perceptible, as he scarcely ventures to put his nose out of the water. In rivers not frequented by mankind, he is, however, less cautious, and there puts his whole head out of the water. If wounded, he will rise and attack boats or canoes with great fury; and is said frequently to sink them by biting large pieces out of the sides; for he is as bold in the water as he is timid on the land. In shallow rivers the hippopotamus makes deep holes in the bottom for the purpose of concealing his great bulk. When he quits the water, he usually puts out half his body at once, smells and looks around, but sometimes he rushes out with great impetuosity, and tramples down every thing in his way. During the night he leaves the rivers to graze upon the land, where he eats sugar canes,

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rushes, millet, rice, &c. consuming great quantities, and doing much damage in the cultivated fields. As he is so timid on land, it is, however, not difficult to drive him off. The Egyptians (as Mr Hasselquist informs us) have a curious method of freeing themselves in some measure from this destructive animal. They remark the places he frequents most, and there lay a large quantity of pease: when the animal comes on shore hungry and voracious, he falls to eating what is nearest him, and, filling his belly with pease, they occasion an insupportable thirst; he then returns immediately into the river, and drinks large draughts of water, which by swelling the pease, cause his sudden death; for not long after the Egyptians find him dead on the shore, blown up as if killed with strong poison. He also feeds on the roots of trees, which he loosens with his great tusks; but he never feeds on fish. These animals sleep on the reedy islands in the middle of the stream, and here they bring forth their young. There is but one male to a herd of females: these bring forth one young at a time on the land, but they suckle them in the water.

They are generally taken in pit-falls, and the poor people eat their flesh. Indeed the flesh of the young animals or calves, as they are called, is esteemed a dainty by the natives. In some parts they place in their corn grounds boards full of sharp irons, which these beasts strike into their feet, and thus become an easy prey. Sometimes they are taken in the water by striking them with harpoons fastened to cords, and 10 or 12 canoes are employed in the chase. The hippopotamus was known to the Romans. Scarus treated the people with the sight of five crocodiles and one hippopotamus during his edileship, and exhibited them in a temporary lake. Augustus produced one at his triumph over Cleopatra.

This animal is the behemoth of Job, who admirably describes its manners, food, and haunts. *Vid.* chap. xl. ver. 15.

For an anatomical account of the skeleton of the hippopotamus by Cuvier, see *Ann. de Mus. Nat.* tom. iv. p. 299.

#### Genus 47. TAPIR. TAPIR.

Front teeth in both jaws 10. Canine teeth in both jaws single, incurvated. Grinders in both jaws five on each side, very broad. Feet with three hoofs and a false hoof on the fore feet.

There is only one species, viz.

*T. Americanus*, American Tapir, which is thus described by M. Bajon.

The figure of the tapir bears some general resemblance to that of a hog; but he is of the height of a small mule, having an extremely thick body and short legs. He is covered with hair of a longer kind than the horse or ass; but not so long nor thick as that of a hog. His mane, which is straight, is but little longer than the rest of the hair, and reaches from the top of the head to the shoulders; the head is large and long, the eyes very small and black: the ears black, and somewhat like those of a hog. He is provided with a trunk on the upper lip of nearly a foot long, the movements of which are extremely supple, and in which resides the organ of smell, as in the elephant, and which he extends in order to grasp fruits, &c. The two nostrils part the end of the trunk. The tail is only two

inches long, and is nearly naked. The hair of the body is of a somewhat deep brown; the limbs short and thick; the feet very large, and rather rounded; the fore feet have four toes, and the hind three: all the toes are covered with a hard thick hoof or horn. Though the head is very large, it contains but a very small brain; the jaws are much elongated, and furnished, in general, with 40 teeth; but sometimes there are more, and sometimes fewer. The cutting teeth are sharp-edged, and are the teeth which vary as to number. After the cutting teeth, we find a canine tooth on each side, both above and below, which have a good deal of resemblance to those of a boar; we then find a small space or interval without teeth, and then follow the grinders, which are very large, with very broad surfaces.

M. Bajon imagined, that, on dissection, he discovered three stomachs within this animal, and therefore he considered it to be a ruminating animal; but this was afterwards found to be a mistake. It appeared, on dissecting a tapir brought alive to Paris, that the stomach was very large, and was contracted in two places, but was still a single uniform stomach.

The female tapir is larger than the male, and has a weaker voice.

The tapir was once considered as an amphibious animal; but this opinion seems to be erroneous.

For an anatomical account of the skeleton of the tapir, by Cuvier, see *Annales de Mus. Nat.* tom. iii. p. 132.

#### Genus 48. SUS. HOG.

Front teeth in the upper jaw four, converging. In the lower jaw six, projecting. Canine teeth or tusks, in the upper jaw two, long, exerted. Snout truncated, prominent, moveable. Feet cloven. 160

In their manners the whole of this tribe nearly resemble each other, being in general filthy and disgusting, and very fond of wallowing in the mire. They feed indifferently on animal and vegetable food, but seem to prefer the latter when they can obtain it. They are particularly fond of acorns, beech mast, and similar fruits, and with their strong tendinous snout they dig up the earth in search of roots. They are exceedingly prolific.

There are about five species, viz.

1. \**S. Scrofa*, Common H. Body bristled in front; tail hairy.—2. *S. Ethiopicus*, Ethiopian H. Wattles beneath the eyes.—3. *S. Africanus*, Cape Verd H. Only two front teeth.—4. *S. Babyrussa*, Babyroussa, or Horned H. The two upper tusks growing from the upper part of the front.—5. *S. Tajaflu*, Pacary. Tailless, with a glandular orifice on the back.

1. *S. Scrofa*, Common H.—The common hog is found either in a wild or domestic state, in almost all the temperate parts of Europe and Asia; but it is not met with in the most northern parts of these continents. It is also found in the upper parts of Africa. Dr Shaw remarks, that it is not indigenous to the British isles; but Mr Pennant asserts, that the wild boar was formerly a native of this country, as appears from the laws of Hœl dda, who permitted his grand huntsman to chase that animal from the middle of November to the beginning of December. William the Conqueror punished, with the loss of their eyes, any that were convicted of killing 161

Bellua.

158  
Tapir.

159  
Americanus.  
Fig. 78.

161

Scrofa,

Common

Hog.

Fig. 79.



Belluz.

killing the wild boar, the stag, or the roe-buck; and Fitz-Stephens tells us, that the vast forest that in his time grew on the north side of London, was the retreat of stags, fallow-deer, wild boars, and bulls.

The wild boar inhabits woods, living on various kinds of vegetables, viz. roots, mast, acorns, &c. &c. It also occasionally devours animal food. It is, in general, considerably smaller than the domestic hog, and is of a dark brindled gray colour, sometimes blackish; but, when only a year or two old, is of a pale red or dull yellowish brown cast; and, when quite young, is marked by alternate dusky and pale stripes disposed longitudinally on each side the body. Between the bristles, next the skin, is a finer or softer hair, of a woolly or curling nature. The snout is somewhat longer in proportion than that of the domestic animal; but the principal difference is in the superior length and size of the tusks, which are often several inches long, and capable of inflicting the most severe and fatal wounds.

The hunting of the wild boar forms one of the amusements of the great in some parts of Germany, Poland, &c. and is a chase of some difficulty and danger, not on account of the swiftness, but the ferocity of the animal.

Wild boars, says Buffon, which have not passed their third year, are called by the hunters *beasts of company*, because previous to this age they do not separate, but follow their common parent. They never wander alone till they have acquired sufficient strength to resist the attacks of the wolf. These animals, when they have young, form a kind of flocks; and it is upon this alone that their safety depends. When attacked, the largest and strongest front the enemy, and by pressing all round against the weaker, force them into the centre. Domestic hogs are also observed to defend themselves in a similar manner. The wild boar is hunted with dogs, or killed by surprise, during the night, when the moon shines. As he flies slowly, leaves a strong odour behind him, and defends himself against the dogs, and often wounds them dangerously, fine hunting dogs are unnecessary, and would have their nose spoiled, and acquire a habit of moving slowly by hunting him. Mastiffs, with very little training, are sufficient. The oldest boars, which are known by the track of their feet, should alone be hunted; a young boar of three years old is difficult to be attacked, because he runs very far without stopping; but the old boars do not run far, allow the dogs to come near, and often stop to repel them. During the day the boar commonly keeps in his soil, which is in the most sequestered parts of the woods, and comes out by night in quest of food; and in summer, when the grain is ripe, it is easy to surprise him among the cultivated fields, which he frequents every night.

As the wild boar advances in age, after the period of three or four years, he becomes less dangerous, on account of the growth of his tusks, which turn up, or make so large a curve, as often rather to impede than assist his intentions of wounding with them.

According to the French newspapers for the year 1787, a wild bear, of most extraordinary size, was killed in the neighbourhood of Cognac in Angoumois, which had often escaped from the hunters, had received many gun-shot wounds, and had cost the lives of several dogs and men each time of attacking him. When

this animal was at length slain, several bullets were said to have been found between his skin and flesh. M. Sonnini, who details this anecdote from the public papers, observes, that if the relation had not been given by hunters of distinguished order, and too well acquainted with these animals to have made any mistake, we might imagine that this formidable creature, which had long committed its ravages in the park of Cognac, belonged to a totally different species. It was of enormous size, with a very long head, a very sharp or pointed snout; and its mouth was armed with teeth of a very singular form. The hairs of the body were white, those of the head yellowish, the neck marked with a black band in form of a cravat, and the ears large and straight; and what appears surprising, considering its size, it was of uncommon swiftness.

In a domestic state the sow brings forth twice a year, and produces from 10 to 20 at a litter. She goes rather more than four months with young. At the time of bringing forth she must be carefully watched, as she sometimes devours her young, and it is still more necessary to keep off the boar, who may destroy the whole litter.

There are several varieties of the hog bred in this country; but those in greatest request are generally known by the name of *Berkshire pigs*. These are usually of a reddish-brown colour, with black spots; they have large ears hanging over their eyes, are short-legged, small-boned, and very easily fattened. Mr Culley mentions one of these that was killed at Congleton in Cheshire, which measured from the nose to the end of the tail nine feet eight inches, was four feet and a half high, and weighed, when killed, 86 stones 1 lbs. avoirdupois.

The Chinese, or black breed, are now very common in England. They are smaller, have shorter legs, and their flesh is whiter and sweeter than the common kind. Of this sort were those found in New Guinea, which proved so seasonable a relief to our circumnavigators, when that country was first visited by them. There are likewise great numbers of them in the Friendly and Society islands, the Marquesas, and many other of the lately discovered islands in the South seas. These are fed with plantains, bread-fruit, and yams; and are exceedingly fat. They are frequently seen by the natives in their canoes, swimming from one island to another, and killed by them with lances and arrows.

The hog species, though very numerous and diffused over Europe, Asia, and Africa, did not exist in America, till transported thither by the Spaniards. In many places they have multiplied exceedingly, and become wild. They resemble the domestic hog, but their bodies are shorter, and their snout and skin thicker.

This animal has been compared to a miser, who is useless and rapacious in his life; but on his death becomes of public use, by the very effects of his fordid manners. The hog, during life, does not render the least service to mankind, except in removing that filth which other animals reject. His more than common brutality urges him to devour even his own offspring. All other domestic quadrupeds shew some degree of respect to mankind, and even a sort of tenderness for us in our helpless years; but this animal will devour infants, whenever it has opportunity.

The parts of this animal are finely adapted to its way of life. As its method of feeding is by turning up the earth,

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earth for roots of different kinds, so nature has given it a more prone form than other animals; a strong brawny neck, eyes small, and placed high in the head, a long snout, nose callous and tough, and a quick sense of smelling to trace out its food. Its intestines have a strong resemblance to those of the human species; a circumstance that should mortify our pride. The external form of its body is very unwieldy, yet, by the strength of its tendons, the wild boar is enabled to fly from the hunters with amazing agility. The back toe on the feet of this animal prevents it from slipping while it descends declivities, and must be of singular use when pursued; yet, notwithstanding its powers of motion, it is by nature stupid, inactive, and drowsy; much inclined to increase in fat, which is disposed in a different manner from other animals, and forms a regular coat over the whole body. It is restless at a change of weather, and in certain high winds is so agitated as to run violently, screaming horribly at the same time: it is fond of wallowing in the dirt, either to cool its furfeited body, or to destroy the lice, ticks, and other insects with which it is infested. Its diseases generally arise from intemperance: measles, imposthumes, and scrophulous complaints, are reckoned among them.

Linnæus observes that its flesh is a wholesome food for athletic constitutions, or those that use much exercise, but bad for such as lead a sedentary life. It is of most universal use, and furnishes numberless materials for epicurism, among which brawn is a kind peculiar to England. The flesh of the hog is an article of the first importance to a naval and commercial nation, for it takes salt better than any other kind, and consequently is capable of being preserved longer. The lard is of great use in medicine, being an ingredient in several sorts of plasters, either pure, or in the form of pomatum; and the bristles are formed into brushes of several kinds.

4. *S. Babyrussa*, the Babyroussa.—This animal nearly resembles the common hog in size; but his body is rather longer, his limbs more slender, and, instead of bristles, he is covered with fine short, rather woolly hair, of a deep brown or blackish colour, with only a few bristles on the upper and hinder parts of the back. It is principally distinguished from other species by the very extraordinary position and form of the upper tusks. These, instead of being situated internally on the edge of the jaw, as in other animals, are placed without, through the skin of the snout, turning upwards towards the forehead. As the animal advances in age, these tusks become so extremely long and curved, as to touch the forehead, and then bend downwards, when they must lose their power as offensive weapons, for which they were probably intended in the younger animal. These upper tusks are of a fine hard grain, and may be used as ivory. The tusks of the lower jaw resemble those of the other species, and are very long, sharp, and curved; but not nearly so large as those of the upper jaw. The eyes are small; the ears erect and pointed; the tail pretty long, slender, and terminated by a tuft of long hairs.

This species is gregarious, and found in large herds in several parts of Java, Amboyna, and other Indian islands. It feeds entirely on vegetables, and often eats the leaves of trees. When sleeping or resting itself in a standing posture, it is said to hook its tusks across the lower branches of the trees by way of support. When

pursued, these animals will often plunge into a river, or even into the sea, and they can swim with great ease, and to a vast distance. Their voice is said to resemble that of the common hog; but it is sometimes a strong, loud, growling note. It is occasionally domesticated by the natives of the Indian islands, and its flesh is considered as wholesome food.

This order contains four genera and 13 species.

In the class MAMMALIA, we have enumerated or described about 537 species; of which the following table shews the number in each genus.

SIMIA contains	62 species
LEMUR,	13
GALEOPITHECUS,	1
VESPERTILIO,	24
BRADYPUS,	3
MYRMECOPHAGA, about	6
MANIS,	3
DASYPUS about	6
RHINOCEROS, perhaps	3
ELEPHAS,	1
PLATYPUS,	1
TRICHECUS, about	7
PHOCA,	19
CANIS, about	23
FELIS, about	25
VIVERRA, about	48
LUTRA,	8
URSUS, about	9
DIDELPHIS, about	18
DASYURUS,	6
PERAMELES,	2
WOMBAT,	1
MACROPUS,	2
TALPA,	7
SOREX,	16
ERINACEUS,	5
HYSTRIX,	6
CAVIA,	7
CASTOR,	2
MUS, about	44
HYDROMYS,	3
ARCTOMYS,	8
SCIURUS,	26
MYOXUS,	7
DIPUS,	6
LEPUS,	12
HYRAX,	3
CAMELUS,	7
MOSCHUS,	7
CERVUS,	12
CAMELOPARDALIS,	1
ANTILOPE,	32
CAPRA,	8
OVIS,	8
BOS,	6
EQUUS,	6
HIPPOTAMUS,	1
TAPIR,	1
SUS,	5
Total	537

Of these about 36 are found in Britain.

The

162  
*Babyrussa*.  
Fig. 80.



Explanation  
of the  
Plates.

The compiler of this article is conscious that it labours under many deficiencies; that many animals, which ought to have been described, are merely enumerated; and that the accounts of several, which are usually considered as important objects of natural history, are much less complete than might have been expected. For many of these defects he does not hold himself accountable. From the very limited space within which he was obliged to confine the article, it was necessary, either that he should treat of every species in a very concise manner, so as to make the treatise

merely a tabular sketch, or that he should content himself with a systematic arrangement of all the mammalia at present known, and enlarge only on a few of the more important species. He has chosen the latter alternative, which, by making the article more interesting to the generality of readers, seems best adapted to the nature of this work; while the systematic arrangement, with the specific characters, will assist the naturalist who knows where to refer for a particular account of the individuals.

Explanation  
of the  
Plates.

## EXPLANATION OF THE PLATES.

## Plate CCCC.

- Fig. 1. *Simia Satyrus*, Oran Otan.  
Fig. 2. *Simia Inuus*, Magot or Barbary Ape.  
Fig. 3. *Simia Sykeanus*, Pygmy.  
Fig. 4. *Simia Spixins*, Great Baboon.  
Fig. 5. *Simia Beetzehul*, Alouatte or Preacher Monkey.  
Fig. 6. *Simia Argentata*, Mico or Fair Monkey.

## Plate CCCII.

- Fig. 7. *Lemur Tardigradus*, Slow Lemur.  
Fig. 8. *Galeopithecus Volans*, Flying Calugo.  
Fig. 9. *Vespertilio Auritus*, Long-eared Bat.  
Fig. 10. *Vespertilio Vampyrus*, Vampire Bat.  
Fig. 11. *Bradyptes Tridactylus*, Three-toed Sloth.  
Fig. 12. *Myrmecophaga Jubata*, Great Ant-Eater.

## Plate CCCIII.

- Fig. 13. *Manis Pentadactyla*, Pangolin, or Short-tailed Manis.  
Fig. 14. *Manis Tetradactyla*, Long-tailed Manis.  
Fig. 15. *Dasyurus Sexcinctus*, Six-banded Armadillo.  
Fig. 16. *Rhinoceros Unicornis*, Single-horned Rhinoceros.

## Plate CCCIV.

- Fig. 17. *Elephas Maximus*, Elephant.  
Fig. 18. *Sukotyra*.  
Fig. 19. *Platypus Anatinus*, Duck-billed Platypus.  
Fig. 20. *Trichechus Kofmarus*, Arctic Walrus.

## Plate CCCV.

- Fig. 21. *Phoca Vitulina*, Common Seal, or Seal-calf.  
Fig. 22. *Canis Domesticus*, Common Dog.  
Var. Shepherd's Dog.  
Fig. 23. Mastiff.  
Fig. 24. Foxhound.  
Fig. 25. Terrier.  
Fig. 26. Greyhound.  
Fig. 27. Irish Greyhound.

## Plate CCCVI.

- Fig. 28. *Canis Lupus*, Wolf.  
Fig. 29. *Canis Hyæna*, Hyæna.  
Fig. 30. *Canis Aureus*, Jackal.  
Fig. 31. *Canis Zerda*, Fennec.

Fig. 32. *Felis Leo*, Lion.

Fig. 33. *Felis Tigris*, Tiger.

## Plate CCCVII.

- Fig. 34. *Felis Catus*, Wild Cat.  
Fig. 35. *Viverra Ichneumon*, Ichneumon.  
Fig. 36. *Viverra Civetta*, Civet Cat.  
Fig. 37. *Viverra Foina*, Martin.  
Fig. 38. *Viverra Furo*, Ferret.  
Fig. 39. *Lutra Vulgaris*, Common Otter.

## Plate CCCVIII.

- Fig. 40. *Ursus Arctos*, Brown Bear.  
Fig. 41. *Ursus Mariumus*, White or Polar Bear.  
Fig. 42. *Ursus Meles*, Badger.  
Fig. 43. *Didelphis Virginiana*, Virginian Opossum.  
Fig. 44. *Didelphis Dorfigera*, Merian Opossum.  
Fig. 45. *Dasyurus Viverrinus*, Viverrine Dasyurus.

## Plate CCCIX.

- Fig. 46. The Wombat.  
Fig. 47. *Macropus Major*, Kangaroo.  
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Fig. 49. *Sorex Araneus*, Common Shrew.  
Fig. 50. *Erinaceus Europeanus*, Common Hedgehog.  
Fig. 51. *Hystrix Cristata*, Porcupine.  
Fig. 52. *Castor Fiber*, Common Beaver.

## Plate CCCX.

- Fig. 53. *Cavia Cobaya*, Rattle Cavy, or Guinea-Pig.  
Fig. 54. *Mus Cricetus*, Hamster Rat.  
Fig. 55. *Hydromys Coypus*, Coypou Rat.  
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Fig. 57. *Sciurus Vulgaris*, Common Squirrel.  
Fig. 58. *Myoxos Mufcardinus*, Common Dormouse.  
Fig. 59. *Dipus Jaculus*, Common Jerboa.

## Plate CCCXI.

- Fig. 60. *Lepus Timidus*, Hare fitting.  
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Fig. 62. *Camelus Dromedarius*, Arabian Camel or Dromedary.  
Fig. 63. *Moschus Moschiferus*, Tibetan Musk.  
Fig. 64. *Cervus Alcei*, Elk.  
Fig. 65. *Camelopardalis Giraffa*, Camelopardalis or Giraffe.

Plate



## Plate CCCXII.

- Fig. 66. *Antilope Picta*, Nyl-ghau.  
 Fig. 67. *Capra Ibx*, Ibx.  
 Fig. 68. *Ovis Argali*, Argali or Wild Sheep.  
 Fig. 69. *Ovis Ariés*, var. Wallachian Ram.  
 Fig. 70. *Bos Taurus*, var. European Bison.  
 Fig. 71. *Bos Grunniens*, Yak of Tartary.

## Plate CCCXIII.

- Fig. 72. *Equus Caballus*, Horse.

Fig. 73. *Equus Asinus*, Wild Ass.Fig. 74. *Mule*.

## Plate CCCXIV.

- Fig. 75. *Equus Zebra*, Zebra.  
 Fig. 76. *Equus Quagga*, Quagga.  
 Fig. 77. *Hippopotamus Amphibius*, Hippopotamus, or River Horse.  
 Fig. 78. *Tapir Americanus*, Tapir.  
 Fig. 79. *Sus Scrofa*, Wild Boar.  
 Fig. 80. *Sus Babyrussa*, Babyroussa.

ERRATUM.—N° 139. species 3. in some copies, for *C. Elephas* read *C. Elaphus*,

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Fig. 1.



Fig. 4.

Fig. 3.



Fig. 6.

Fig. 5.









MAMMALIA.

Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.



Fig. 11.



Fig. 12.



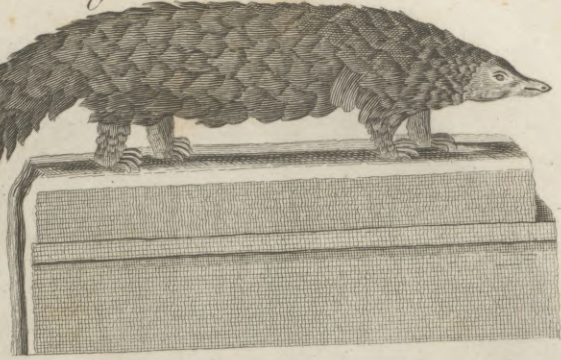
ABell Pin. W. ad. Sculptor fecit.







*Fig. 14.*



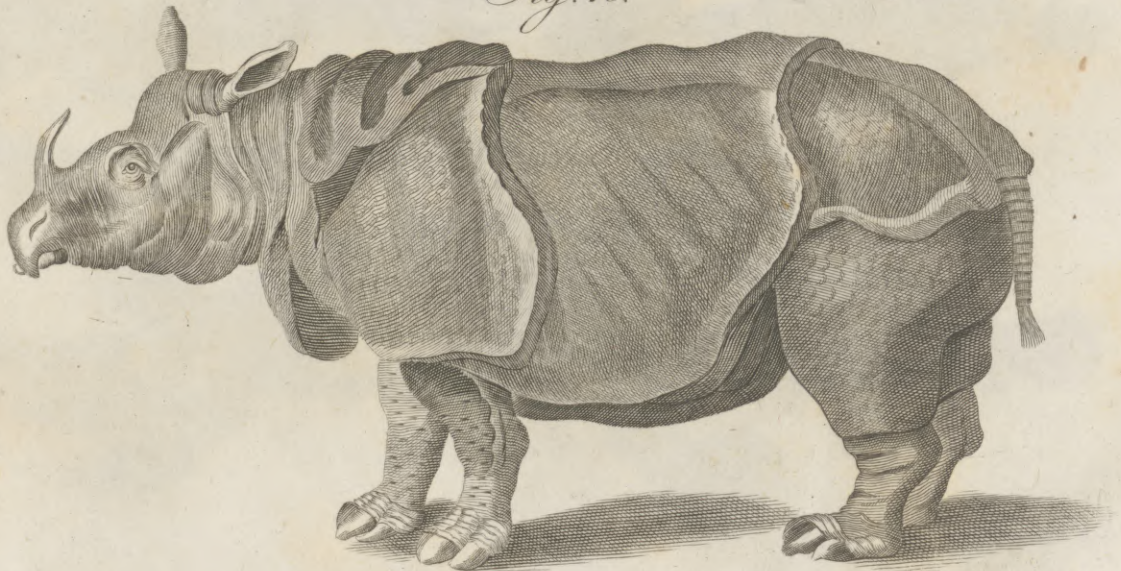
*Fig. 13.*



*Fig. 15.*



*Fig. 16.*









*Fig. 17.*



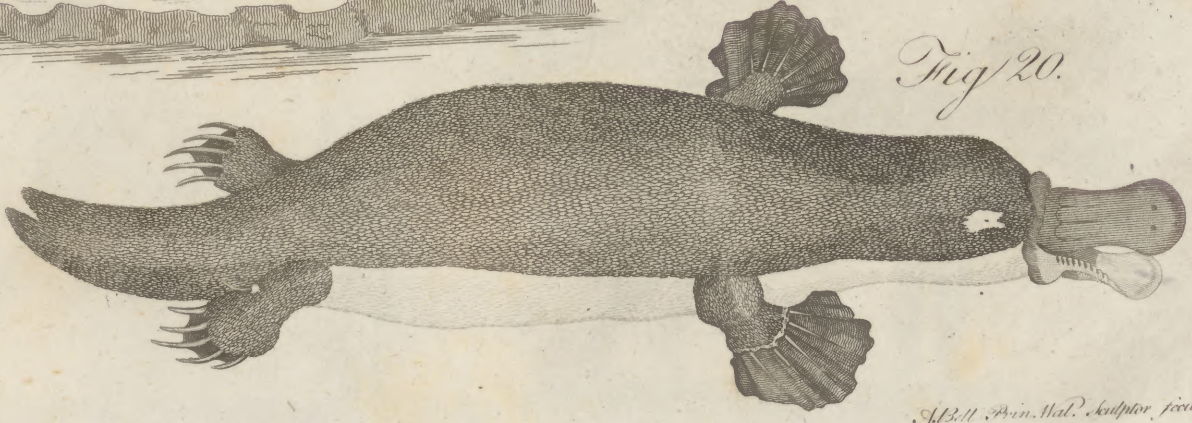
*Fig. 18.*



*Fig. 19.*



*Fig. 20.*



*A. Bell Pin. Nat. Sculptor fecit.*









*Fig. 21.*



*Fig. 23.*



*Fig. 22.*



*Fig. 25.*



*Fig. 24.*



*Fig. 27.*



*Fig. 26.*







*Fig. 28.*



*Fig. 29.*



*Fig. 31.*



*Fig. 30.*



*Fig. 33.*



*Fig. 32.*









*Fig. 34.*



*Fig. 35.*



*Fig. 36.*



*Fig. 37.*



*Fig. 38.*



*Fig. 39.*





PLATE I  
1777

AMERICAN





*Fig. 40.*

MAMMALIA.



*Fig. 41.*



*Fig. 42.*



*Fig. 43.*



*Fig. 44.*



*Fig. 45.*









*Fig. 46.*



*Fig. 47.*



*Fig. 48.*



*Fig. 49.*



*Fig. 50.*



*Fig. 51.*



*Fig. 52.*









Fig. 53.



Fig. 55.



Fig. 56.

Fig. 57.



Fig. 59.

Fig. 58.









*Fig. 60.*



*Fig. 61.*



*Fig. 62.*



*Fig. 63.*



*Fig. 64.*



*Fig. 65.*



*A. Bell. Pin. del. Goussier fecit*







*Fig. 66.*



*Fig. 67.*



*Fig. 68.*



*Fig. 69.*



*Fig. 70.*



*Fig. 71.*









*Fig. 72.*



*Fig. 73.*



*Fig. 74.*

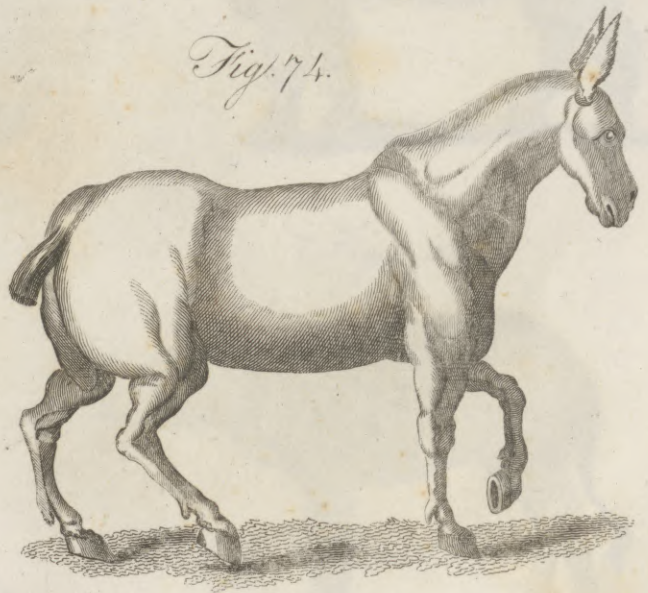




PLATE I

PLATE I





*Fig. 75.*



*Fig. 76.*



*Fig. 77.*



*Fig. 78.*



*Fig. 79.*



*Fig. 80.*



*Atbell Pin. Wal. Sculptor. fecit.*







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				W.		

## M A M

## M A M

Mammea || Mammoth. MAMMEA, *MAMMER-Tree*; a genus of plants belonging to the polyandria class; and in the natural method ranking with those of which the order is doubtful. See BOTANY Index.

MAMMON, the god of riches, according to some authors; though others deny that the word stands for such a deity, and understand by it only *riches* themselves. Our Saviour says, *We cannot serve God and Mammon*; that is, be religious and worldly-minded at the same time. Our poet Milton, by poetic license, makes Mammon to be one of the fallen angels, and gives us his character in the following lines:

Mammon, the least erected spirit that fell  
From heav'n; for ev'n in heav'n his looks and  
thoughts  
Were always downward bent; admiring more  
The riches of heav'n's pavement, trodden gold,  
Than ought divine or holy else enjoy'd  
In beatific vision: by him first  
Man also, and by his suggestion taught,  
Ranack'd the centre, and with impious hands  
Rifled the bowels of their mother earth,  
For treasures better hid. Soon had his crew  
Open'd into the hill a spacious wound,  
And digg'd out ribs of gold. Let none admire  
That riches grow in hell; that soil may best  
Deserve the precious bane.

MAMMOTH, or MAMMUTH, the name of a huge animal, now unknown, to which are said to have belonged those tusks, bones, and skeletons, of vast magnitude, which have been frequently found in different parts of Siberia, as well in the mountains as the valleys; likewise in Russia, Germany, and North America. Many specimens of them may be seen in the Imperial cabinet at Petersburg: in the British, Dr Hunter's, and the late Sir Ashton Lever's museums, and in that of the Royal Society. A description of the mammoth is given by Muller in the *Recueil des Voyages au Nord*: "This animal, he says, is four or five yards high, and about 30 feet long. His colour is grayish. His head is very long, and his front very broad. On each side, precisely under the eyes, there are two horns, which he can move and cross at pleasure. In walking he has the power of extending and contracting his body to a great degree." Brandes Ides gives a similar account; but he is candid enough to acknowledge, that he never

knew any person who had seen the mammoth alive. Mr Pennant, however, thinks it "more than probable that it still exists in some of those remote parts of the vast new continent, impenetrated yet by Europeans. Providence (he adds) maintains and continues every created species; and we have as much assurance, that no race of animals will any more cease while the earth remaineth, than *seed-time and harvest, cold and heat, summer and winter, day and night*." The Ohio Indians have a tradition handed down from their fathers respecting these animals, "That in ancient times a herd of them came to the Big-bone Licks, and began an universal destruction of the bears, deer, elks, buffaloes, and other animals which had been created for the use of the Indians: that the Great Man above, looking down and seeing this, was so enraged that he seized his lightning, descended to the earth, seated himself upon a neighbouring mountain on a rock, on which his feat and the print of his feet are still to be seen, and hurled his bolts among them till the whole were slaughtered, except the big bull, who, presenting his forehead to the shafts, shook them off as they fell; but at length missing one, it wounded him in the side; whereon, springing round, he bounded over the Ohio, the Wabash, the Illinois, and finally over the great lakes, where he is living at this day." See MAMMALIA Index.

MAMRE, an Amorite, brother of Aner and Eshcol, and friend of Abraham (Gen. xiv. 13.). It was with these three persons, together with his own and their domestics, that Abraham pursued and overcame the kings after their conquest of Sodom and Gomorrah. This Mamre, who dwelt near Hebron, communicated his name to great part of the country round about. Hence we read (chap. xiii. 18. xxiii. 17, &c.), that Abraham dwelt in Mamre and in the plain of Mamre. But it is observed, that what we translate the *plain* should be rendered the *oak*, of Mamre, because the word *elon* signifies an *oak* or *tree of a long duration*. S. J. J. tells us, that this tree was still extant, and famous for pilgrimages and annual feasts, even in Constantine's time; that it was about six miles distant from Hebron; that some of the cottages which Abraham built were still standing near it; and that there was a well like-wise of his digging, whereunto both Jews, Christians, and Heathens, did at certain seasons resort, either out of devotion or for trade, because there was held a great mart.



Man. mart. To these superstitions Constantine the Great put a stop.

Importance  
of the study  
of man.

MAN. Of all the objects which the universe presents to our observation, there is none that so powerfully calls for our attention, there is none with which it so much concerns us to be intimately acquainted, as the human species. If we admit, what mankind, in that pride of heart, which is so natural to those who style themselves the *lords of the creation*, have assumed, that man is the only being possessed of reason; there is no *created thing* that can in the least stand in competition with him. But, without examining into the validity of this exclusive claim, without inquiring whether some of our inferior *fellow mortals* may not be admitted to some small share of this faculty; it must be allowed that, whether we consider him as a solitary being, possessed of beauty and intelligence superior to the other classes of animated nature, or in the more amiable character of a social being, capable of the sentiments of affection, friendship, gratitude, and benevolence, man is a most distinguished personage; and, to his fellow men, certainly the most interesting object to which they can direct their attention; that in short,

“The proper study of mankind is man.”

A full examination of every thing relating to the human species would include almost all that is interesting, useful, or curious in nature. Indeed this whole work is little more than a collection of facts and reasonings, that either mediately or immediately relate to MAN. It may not be improper here to refer to a few of the principal articles alluded to, before we enter on the proper business of this article, which is to state a few general circumstances relating to the *natural history* of man, considering him as the *first animal* in the creation.

Outline of  
the study of  
man.

First, Man may be considered *generically*; as constituting a *tribe* of animals differing from all others, in his *structure, functions, diseases*, and in possessing the *faculty of reason*.

The *structure* of man has been detailed under ANATOMY; his *functions* will be treated of under PHYSIOLOGY; the *diseases and accidents* to which he is exposed, with their treatment and remedies, will form the subjects of MEDICINE, MIDWIFERY, SURGERY, and MATERIA MEDICA; and the nature and exercise of his *reasoning powers* are discussed under LOGIC, METAPHYSICS, LANGUAGE, GRAMMAR, ORATORY, ARITHMETIC, ALGEBRA, GEOMETRY, &c.

Secondly, Man may be considered *specifically*, as differing from others of the same tribe in *height, features, colour, disposition, and manners*; resulting from climate and other local circumstances. In a general point of view, the varieties of the human species fall to be noticed *here*; but, for a particular account of the inhabitants of different regions of the globe, we refer the reader to the geographical articles AFRICA, ASIA, AMERICA, ABYSSINIA, CEYLON, HINDOSTAN, New HOLLAND, &c.

Thirdly, Man may be considered as a *dependent and an accountable being*, in relation to his *Creator, his neighbour, or himself*. The *religious and moral duties* of man are explained under THEOLOGY, CHRISTIANITY, MORAL PHILOSOPHY, and LAW; and to these may be added, as connected with man in this third view, *POLITICAL Economy, AGRICULTURE, GARDENING, AR-*

CHITECTURE, CHEMISTRY, DYNAMICS, MECHANICS, HYDRODYNAMICS, and a number of other branches of science, that teach man how to employ to the best advantage those powers and faculties with which Heaven has endowed him, for his individual and common benefit.

Lastly, We may consider man with respect to the relations that subsist between him and the inferior classes of the creation, as they minister to his necessities, supply his wants, abridge his comforts, or oppose his progress. This consideration naturally leads us to the article NATURAL HISTORY, and its subdivisions MAMMALIA, CETOLOGY, ERPETOLOGY, OPHIOLOGY, ORNITHOLOGY, ICHTHYOLOGY, HELMINTHOLOGY, CONCHOLOGY, BOTANY, MINERALOGY, GEOLOGY, and METEOROLOGY.

Of those writers who directly treat of man, the *philosopher* and the *moralist* consider him in the abstract; the *geographer* describes him as he exists in communities; the *historian* traces the origin of society, the progress of man in arts, civilization, and refinement, and the changes that have taken place among the human species, from the natural operation of physical causes, or from the folly, villainy, and ambition of princes and heroes; the *biographer* treats of man as an individual, and shews the effects of exalted virtue, eminent abilities, or striking vices, both on their possessor and on the community at large. It is the business of the *naturalist* to describe the external form of man, as it differs from that of other animals; to consider the usual varieties of it in different nations, and the more striking peculiarities that are occasionally found in individuals; to describe the habits and manners of the human species; the progress of life from infancy to death; the duration of life and its causes; and the effects produced on the body by death.

Of the writers who have treated on some part of the natural history of man, we might give a most copious list, even without including the almost innumerable catalogue of medical works. For the generality of readers, it may be sufficient to refer to Buffon's Natural History, or the Abridgement of it by Goldsmith; to Virey's *Histoire Naturelle du Genre Humain*; Cuvier's *Tableau Elementaire de l'Histoire Naturelle des Animaux*; Herder's Outlines of the Philosophy of the History of Man; and the works of Daubenton, Vicq d'Azyr, Camper, Blumenbach, &c. &c.

We had proposed giving here a short popular view of the *structure and economy* of man; but as even this would lead us into details for which we cannot afford room, we must refer our readers to Kerr's Translation of the System of Linnæus, and Dr Hunter's Introductory Lectures to his course of Anatomy.

It is of more consequence to our present purpose to mention the particular circumstances that distinguish man from those animals to which he seems nearest allied. These distinctive marks are well described by Blumenbach, in his work *De Generis Humani Varietate Nativa*, and by M. Daubenton, in his introduction to the Dictionary of Natural History in the *Encyclopédie Methodique*; with the latter we shall present our readers.

The only animals that bear any striking resemblance to man, in point of structure, are the apes, especially the orangutan, and the gibbon; but according to M. Daubenton, apes.

Man. Writers on the natural history of man.



Man.

Daubenton, there are two principal circumstances that particularly distinguish man from these animals; the first is the strength of the muscles of the legs, by which the body is supported in a vertical position above them; the second consists in the articulation of the head with the neck by the middle of its base.

We stand upright, bend our body, and walk, without thinking on the power by which we are supported in these several positions. This power resides chiefly in the muscles which constitute the principal part of the calf of the leg. Their exertion is felt, and their motion is visible externally, when we stand upright and bend our body backwards and forwards. This power is no less great when we walk even on a horizontal plane. In ascending a height, the weight of the body is more sensibly felt than in descending. All these motions are natural to man. Other animals, on the contrary, when placed on their hind legs, are either incapable of performing them at all, or do it partially, with great difficulty, and for a very short time. The *gibbon*, and the *oran otan*, can stand upright with much less difficulty than other brutes; but the restraint they are under in this attitude, plainly shews that it is not natural to them. The reason is, that the muscles in the back part of the leg in the *gibbon*, &c. are not, as in man, sufficiently large to form a calf, and consequently not sufficiently strong to support the thighs and body in a vertical line, and to preserve them in that posture. See MAMMALIA, n° 28.

M. Daubenton has discovered, that the attitudes proper to man and to other animals, are pointed out by the different ways in which the head is articulated with the neck. The two points by which the osseous part of the head is connected with the first joint of the neck, and on which every movement of the head is made with the greatest facility, are placed at the edge of the great hole of the occipital bone, which in man is situated near the centre of the base of the skull, (affording a passage for the medullary substance into the vertebral canal,) as upon a pivot or point of support. The face is on a vertical line, almost parallel to that of the body and neck. The jaws, which are very short when compared with those of most other animals, extend very little farther forwards than the forehead. No animal has, like man, its hind legs as long as the body, neck, and head, taken together, measuring from the top of the head to the os pubis.

5  
Differences  
between  
man and  
quadrupeds  
in general.

In the frame of the human body the principal parts are nearly the same with those of other animals; but in the connexion and form of the bones there is as great a difference as in the attitudes proper to each. Were a man to assume the natural posture of quadrupeds, and try to walk by the help of his hands and feet, he would find himself in a very unnatural situation; he could not move his feet and hands but with the greatest difficulty and pain; and let him make what exertions he pleased, he would find it impossible to attain a steady and continued pace. The principal obstacles he would meet with would arise from the structure of the pelvis, the hands, the feet, and the head.

The plane of the great occipital hole, which in man is almost horizontal, puts the head in a kind of equilibrium upon the neck when we stand erect in our natural attitude; but when we are in the attitude of quadrupeds, it prevents us from raising our head so as to

look forwards, because the movement of the head is stopped by the protuberance of the occiput, which then approaches too near the vertebræ of the neck.

Man.

In most animals, the great hole of the occipital bone is situated at the back part of the head; the jaws are very long; the occiput has no protuberance beyond the aperture, the plane of which is in a vertical direction, or inclined a little forwards or backwards; so that the head is pendant, and joined to the neck by its posterior part. This position of the head enables quadrupeds, though their bodies are in a horizontal direction, to present their muzzle forwards, and to raise it so as to reach above them, or to touch the earth with the extremity of their jaws when they bring their neck and head down to their feet. In the attitude of quadrupeds, man could touch the earth only with the fore part or the top of the head.

To these differences of structure, we may add, that when man is standing, his heel rests upon the earth as well as the other parts of his foot; when he walks it is the first part that touches the ground; man can stand on one foot; these are peculiarities in structure and in the manner of moving which are not to be found in other animals. We may therefore conclude that man cannot be ranked in the class of quadrupeds. We may add, that in man the brain is much larger, and the jaws much shorter, than in any other animal. The brain, by its great extent, forms the protuberance of the occipital bone, the fore head, and all that part of the head which is above the ears. In the inferior animals, the brain is so small, that most of them have no occiput, and the front is either wanting or little raised. In animals which have large foreheads, such as the horse, the ox, the elephant, &c. they are placed as low as the ears, and even lower. These animals likewise want the occiput, and the top of the head is of very small extent. The jaws, which form the greatest portion of the muzzle, are large in proportion to the smallness of the brain. The length of the muzzle varies in different animals; in solipede animals it is very long; it is short in the *oran otan*, and in man it does not exist at all: no beard grows on the muzzle; this part is wanting in every animal\*.

6  
Man could  
never be a  
quadruped.  
\* Daubenton.

Man then alone, of all the animals with which we are acquainted, can constantly and uniformly support himself in the erect posture; and whatever the ingenious and learned writer of Ancient Metaphysics has advanced in favour of so strange a hypothesis, we cannot believe that even in his earliest and rudest state of civilization man could ever have been a quadruped. We are aware that Kotzebue, in the entertaining work in which he relates his exile to Siberia, speaks of an idiot he saw on his return, that went on all fours, with as much ease as if it were his natural attitude, but we do not consider this single instance as affording a proof that such would be the attitude of man in a state of nature.

“There are (says Cuvier) several circumstances in the anatomical structure of man, which sufficiently prove that nature never intended him to walk on all fours. In this situation his eyes would be directed towards the earth; but not being possessed of the cervical ligament that is found in quadrupeds, he would not be able to support his head. His inferior extremities would be too much elevated in proportion to his arms, and his feet too short



Man. short to enable him conveniently to bend them like other animals who tread only on their toes. His chest is so large that it would impede the free motion of his arms. He could not even climb with so much facility as apes, because he has not, like them, the great toe separated from the rest; nor could he climb like the cats, on account of the weakness of his nails” \*.

The body of a well-shaped man ought to be square, the muscles ought to be strongly marked, the contour of the members boldly delineated, and the features of the face well defined. In women, all the parts are more rounded and softer, the features are more delicate, and the complexion brighter. To man belong strength and majesty: gracefulness and beauty are the portions of the other sex. The structure essential to each will be found in the description of the human skeleton, under the article ANATOMY.

Every thing in both sexes points them out as the sovereigns of the earth; even the external appearance of man declares his superiority to other creatures. His body is erect; his attitude is that of command; his august countenance, which is turned towards heaven, bears the impressions of his dignity. The image of his soul is painted in his face; the excellence of his nature pierces through the material organs, and gives a fire and animation to the features of his countenance. His majestic deportment, his firm and emboldened gait, announce the nobleness of his rank. He touches the earth only with his extremity, he views it only at a distance, and seems to despise it. It has been justly observed, that the countenance of man is the mirror of his mind. In the looks of no animal are the expressions of passions painted with such energy and rapidity, and with such gentle gradations and shades, as in those of man. We know, that in certain emotions of the mind, the blood rises to the face, and produces blushing; and that in others the countenance turns pale. These two symptoms, the appearance of which depends on the structure and the transparency of the reticulum, especially redness, constitute a peculiar beauty. In our climates, the natural colour of the face of a man in good health is white, with a lively red suffused upon the cheeks. Paleness of the countenance is always a suspicious symptom. That colour which is shaded with black is a sign of melancholy; and constant and universal redness is a proof that the blood is carried with too much impetuosity to the brain. A livid colour is a morbid and dangerous symptom; and that which has a tint of yellow is a sign of jaundice or repletion of bile. The colour of the skin is frequently altered by want of sleep or of nourishment, or by looseness and diarrhoea \*.

Notwithstanding the general similitude of countenance in nations and families, there is a wonderful diversity of features. No one, however, is at a loss to recollect the person to whom he intends to speak, provided he has once fully seen him. One man has liveliness and gaiety painted in his countenance, and announces beforehand, by the cheerfulness of his appearance, the character which he is to support in society. The tears which bedew the cheeks of another man would excite compassion in the most unfeeling heart. Thus the face of man is the rendezvous of the symptoms both of his moral and physical affections; tranquillity,

anger, threatening, joy, smiles, laughter, malice, love, envy, jealousy, pride, contempt, disdain or indignation, irony, arrogance, tears, terror, astonishment, horror, fear, shame or humiliation, sorrow and affliction, compassion, meditation, particular convulsions, sleep, death, &c. &c. The difference of these characters appears to us of sufficient importance to form a principal article in the natural history of man.

When the mind is at ease, all the features of the face are in a state of profound tranquillity. Their proportion, harmony, and union, point out the serenity of the thoughts. But when the soul is agitated, the human face becomes a living canvas, whereon the passions are represented with equal delicacy and energy; where every emotion of the soul is expressed by some feature, and every action by some mark; the lively impression of which anticipates the will, and reveals by pathetic signs our secret agitation, and those intentions which we are anxious to conceal. It is in the eyes that the soul is painted in the strongest colours, and with the nicest shades. The different colours of the eyes are, dark hazel, light hazel, green, blue, gray, and whitish gray. The most common of these colours are hazel and blue, both of which are often found in the same eye. Eyes which are commonly called black, are only dark hazel; they appear black in consequence of being contrasted with the white of the eye. Wherever there is a tint of blue, however slight, it becomes the prevailing colour, and outshines the hazel, with which it is intermixed, to such a degree, that the mixture cannot be perceived without a very narrow examination. The most beautiful eyes are those which appear black or blue. In the former there is more expression and vivacity; in the latter more sweetness, and perhaps delicacy.

Next to the eyes, the parts of the face by which the physiognomy is most strongly marked, are the eyebrows. Being of a different nature from the other parts, their effect is increased by contrast. They are like shade in a picture, which gives relief to the other colours and forms.

The forehead is one of the largest parts of the face; and one that contributes most to its beauty. Every body knows of how great importance the hair is in the physiognomy, and that baldness is a very great defect. When old age begins to make its approaches, the hair which first falls off is that which covers the crown of the head and the parts above the temples. We seldom see the hair of the lower part of the temples, or of the back of the head, completely fall off. Baldness is peculiar to men; women do not naturally lose their hair, though it becomes white as well as that of men at the approach of old age.

The nose is the most prominent feature of the face; but as it has very little motion, and that only in the most violent passions, it contributes less to the expression than to the beauty of the countenance. The nose is seldom perpendicular to the middle of the face, but for the most part is turned toward the one side or the other. The cause of this irregularity, which according to painters, is perfectly consistent with beauty, and of which even the want would be a deformity, appears to be frequent pressure on one side of the cartilage of the child's nose against the breast of the mother when

Man.

9  
General analysis of the features.

10  
The eyes.

11  
The eye-brows.

12  
The forehead.

13  
The nose.

\* Tableau elementaire.

7  
Nobleness of the form and attitude of man.

\* Buffon.

Diversity of the human features.

it.



<sup>Man.</sup> it receives suck. At the early period of life the cartilages and bones have acquired very little solidity, and are easily bent.

<sup>14</sup> Mouth and lips. Next to the eyes, the mouth and lips have the greatest motion and expression. The motions of these parts are under the influence of the passions. The mouth, set off by the vermilion of the lips, and the enamel of the teeth, marks, by the various forms it assumes, their different characters; and this feature receives animation from the organ of the voice, which communicates to it more life and expression than is possessed by any other feature. The cheeks are uniform features, and have no motion, and little expression, except what arises from that involuntary redness or paleness with which they are covered in different passions, such as shame, anger, pride, and joy, producing redness; and fear, terror, and sorrow, producing paleness.

<sup>15</sup> Changes on the features by the passions. In different passions, the whole head assumes different positions, and is affected with different motions. It hangs forward during shame, humility, and sorrow; it inclines to one side in languor and compassion; it is elevated in pride, erect and fixed in obliquity and self-conceit. In astonishment, it is thrown backwards; and it moves from side to side in contempt, ridicule, anger, and indignation. In grief, joy, love, shame, and compassion, the eyes swell and the tears flow. The effusion of tears is always accompanied with an extension of the muscles of the face, which opens the mouth. In sorrow, the corners of the mouth are depressed, the under-lip rises, the eyelids fall down, the pupil of the eye is round and half concealed by the eyelid. The other muscles of the face are relaxed, so that the distance between the eyes and the mouth is greater than ordinary; and consequently the countenance appears to be lengthened. In fear, terror, consternation, and horror, the forehead is wrinkled, the eyebrows are raised, the eyelids are opened as wide as possible, the upper-lid uncovers a part of the white above the pupil, which is depressed and partly concealed by the under lid. At the same time the mouth opens wide, the lips recede from each other, and discover the teeth both above and below. In contempt and derision, the upper-lip is raised to one side and exposes the teeth, while the other side of the lip moves a little, and wears the appearance of a smile. The nostril on the elevated side of the lip shrivels up, and the corner of the mouth falls down. The eye on the same side is almost shut, while the other is open as usual; but the pupils of both are depressed, as when one looks down from a height. In jealousy, envy, and malice, the eyebrows fall down and are depressed. The upper lip is elevated on both sides, while the corners of the mouth are a little depressed, and the under-lip rises to join the middle of the upper. In laughter, the corners of the mouth are drawn back, and a little elevated; the upper parts of the cheeks rise; the eyes are more or less closed; the upper lip rises, and the under one falls down; the mouth opens, and in cases of immoderate laughter, the skin of the nose wrinkles. That gentler and more gracious kind of laughter which is called *smiling*, is seated wholly in the parts of the mouth. The under lip rises; the angles of the mouth are drawn back, the cheeks are pushed up, the eyelids approach one another, and a small twinkling is observed in the eyes. It is very extraordinary, that laughter may be excited either by a

moral cause without the immediate action of external objects, or by a particular irritation of the nerves without any feeling of joy. Thus an involuntary laugh is excited by a slight tickling of the lips, of the palm of the hand, of the sole of the foot, of the armpits, and in short, below the middle of the ribs. We laugh when two dissimilar ideas, the union of which was unexpected, are represented to the mind at the same time, and when one or both of these ideas, or their union, includes some absurdity which excites an emotion of disdain mingled with joy. In general, striking contrasts never fail to produce laughter.

A change is produced in the features of the countenance by weeping as well as by laughing. In weeping, the under lip is separated from the teeth; the forehead is wrinkled; the eyebrows are depressed; the dimple which gives a gracefulness to laughter, forsakes the cheek; the eyes are unusually compressed, and bathed in tears. In laughter, tears not unfrequently appear, but they flow more seldom and less copiously.

The arms, hands, and every part of the body, contribute to the expression of the passions. In joy, for instance, all the members of the body are agitated with quick and varied motions. In languor and sorrow, the arms hang down, and the whole body remains fixed and immoveable. In admiration and surprise, a similar suspension of motion is likewise observed. In love and hope, the head and eyes are raised to heaven, as if to solicit the wished-for good; the body bears forward as if to approach it; the arms are stretched out, and seem to seize before hand the desired object. On the contrary, in fear, hatred and horror, the arms seem to push backward, and repel the object of aversion. We turn away our head and eyes, as if to avoid the sight of it; we start back as if to shun it\*.

For the *beauty* of the human form, see BEAUTY and DRAWING.

<sup>16</sup> At his birth, man is the most feeble of all animals; he cannot subsist but by the care of his parents, for which he has occasion for a much longer time than other animals. Hence the natural continuance of conjugal affection, and the intimate ties that bind together the parents with each other and with their children. As the father partakes with his companion in the care of educating their children, man ought more than any other animal, to live in a state of monogamy, the propriety of which is demonstrated by the nearly equal number of male and female children that on an average come into the world.

<sup>17</sup> Man is formed for society, which is rendered essentially necessary to him from his natural weakness, and without which he would not be able to resist the wild beasts of the forest, nor procure for himself the necessaries of life: for he has no arms offensive or defensive, such as horns, claws, scales; nor any thing that resembles that faculty which we call instinct, which many species of animals derive from nature herself, and by which they construct themselves habitations, or change their climate, according to the diversity of the seasons.

<sup>18</sup> All gregarious animals have a certain language by which they can in some measure communicate their thoughts to each other; but man enjoys in this respect two remarkable prerogatives. 1. The faculty of articulating sounds, which no quadruped enjoys in common with him, and which must give to his language an infinite

<sup>Man.</sup>

\* Buffon.

And of social intercourse.

Of language and arts.



finite variety and precision. 2. An unlimited power of generalizing his ideas, and of fixing and retaining abstract notions by means of words. On this depend memory and judgement, which latter is the foundation of reason, or of that faculty of reflecting and combining ideas, which is considered as peculiar to man.

It is by means of language that man communicates to the rest of his species the observations and discoveries made by each individual, and this communication is the great source of the infinite perfectibility of the human race. The arts are the offspring of science, produced by the combination of these observations and discoveries, and by that address which results from the peculiar conformation of our hands and fingers.

By means of the arts man has learned to procure for himself subsistence, and to provide against the inclemencies of the weather in every climate of the earth. Thus, he has established himself every where; while the rest of the animal creation have each a determinate space, beyond which they cannot pass without the protection of man, who has transported with him the domestic kinds, and has been followed in spite of himself by the parasitical tribes.

<sup>19</sup> Progress of civilization. The nations who established themselves in the icy regions of the north, not finding there enough of vegetable nourishment, nor pasture sufficiently abundant for cattle, derived all their subsistence from the chase or fishing. Obligated to devote all their time to the procuring of this subsistence, and multiplying but slowly, from the destruction of the game which surrounded them, it is not surprising that among them man has made least progress in arts and civilization. Their arts were confined to the construction of huts, to the preparing of skins for their covering, and to the manufacture of spears and arrows. The inhabitants of the northern and eastern parts of Siberia, and the savages of North America, are almost the only people who are in this low state of civilization.

Other nations learned to secure for themselves in the possession of numerous herds, certain subsistence, and to find sufficient leisure to increase their knowledge; but their wandering life, in search of new pastures and more agreeable climates, kept them still within very narrow limits with respect to civilization. They, however, acquired more industry in the construction of their habitations, and learned the value of property; the natural consequences of which were riches, and an inequality of condition. The Laplanders in the north of Europe, the Tartars who inhabit the vast extent of country in the interior of Asia, the Bedouin Arabs who occupy the sands of Arabia and the north of Africa, the Caffres and Hottentots in the south of Africa, are the principal wandering tribes with which we are acquainted.

Man did not multiply to any great extent, nor rise to any great perfection in the arts and sciences, till landed property allowed him to pay attention to agriculture, by means of which the labour of one part of the community could procure subsistence for the rest, and leave them sufficient leisure to employ themselves in arts less necessary than ornamental. Lastly, The invention of money, by facilitating the transfer of commodities, brought to the highest pitch industry, luxury, and inequality of fortune, and by a necessary conse-

quence, the vices of effeminacy, and the rage of ambition.

Man living in every climate, fearing no other animal, but having even destroyed or confined to the deserts all those who could molest him, became incomparably more numerous than any other tribe of large animals. Hence, having few other animals to combat, he soon began to make war on his own species, and he may be considered as almost the only animal that is perpetually at war with those of the same tribe. Savages dispute the forests in which they follow the chase; Nomads, the pastures where they feed their cattle; more civilized people combat for the monopoly of commerce or the prerogatives of pride and ambition. Hence the necessity of government, to regulate national disputes, and to reduce to certain rules the quarrels of individuals\*.

It is chiefly the features of the countenance, and the colour of the skin, that serve to distinguish the varieties of the human species. Independently of particular and individual differences, the human race may be distinguished into five principal varieties, the distinctive characters of which are deeply stamped, and appear to resist even the powerful influence of climate. In fact we see, under the same parallel of latitude, and in the same country, existing together for a number of ages, the dark Hungarian or gypsy, and the fairest people of Europe; the copper coloured Peruvian, the brown Malay, and the almost white Abyssinian, in the same zone that is inhabited by the blackest people in the universe. The inhabitants of Van Diemen's land are black, while the Europeans of the same degree of north latitude are white; and the inhabitants of the Malabar coast, though placed beneath a sky much hotter than the inhabitants of Siberia, are not browner than these latter. The Dutch who colonized the Cape of Good Hope, have not, during two centuries, acquired the same colour with the Hottentots who people that country; and the Parsi remain white in the midst of the olive-coloured Hindoos.

The colouring matter seated in the mucous membrane below the skin, is not the only distinctive character that marks the varieties of the human species, as in each of them there is a peculiar form, distinguished by general and constant marks, depending on the conformation of the bones. The muzzle of the Negro; the very prominent cheek-bones of the Calmuck; the flattened skull and nose of the Carribbee Indian; the oblique eyes of the Japanese and Chinese, do not appear owing to art, like the lengthened ears or the tattooed skin of the natives of the South sea islands. The fair or red colour of the hair in Europeans; the blue or gray eyes of the north, are almost never seen, except in a few morbid cases, in any other varieties. The hair of all the rest is very black, even from infancy; sleek and thick in all the Mongul nations, the Malays, and the Americans, both of the south and north, but woolly in Negroes and Hottentots; the beard which is late and thin in all the Monguls, exists naturally throughout the American tribes, though, as among most other savage people, all the Carribs eradicate it from their youth, which has induced a supposition that all these savage people are naturally beardless†.

Mankind with respect to their varieties, have been very

Man.

\* Cuvier.

20

Marks that distinguish varieties of the human species.

† Virey.



Man. very differently divided by naturalists. Linnaeus makes five varieties, viz. 1. *Americans*, of copper-coloured complexion, choleric constitution, and remarkably erect. 2. *Europeans*; of fair complexion, sanguine temperament, and brawny form. 3. *Asiatics*; of sooty complexion, melancholic temperament, and rigid fibre. 4. *Africans*; of black complexion, phlegmatic temperament, and relaxed fibre; and 5. *Monsters*; comprehending, 1. *Alpini*; the inhabitants of the northern mountains: they are small in stature, active, and timid in their disposition. 2. *Patagonici*; the Patagonians of South America, of vast size, and indolent in their manners. 3. *Monorchides*; the Hottentots, having one testicle extirpated. 4. *Imberbes*; most of the American nations, who eradicate their beards and the hair from every part of the body except the scalp. 5. *Macrocephali*. 6. *Plagiocephali*; the Canadian Indians, who have the fore part of their heads flattened, when young, by compression.

21  
Varieties of man as stated by Linnaeus.

22  
By Gmelin. The following arrangement of the varieties in the human species, is offered by Gmelin as more convenient than that of Linnaeus. 1. White, (*Hom. Albus.*) Formed by the rules of symmetrical elegance and beauty; or at least what we consider as such.—This division includes almost all the inhabitants of Europe; those of Asia on this side of the Oby, the Caspian, Mount Imaus, and the Ganges; likewise the natives of the north of Africa, of Greenland, and the Esquimaux.

2. Brown: (*Hom. Badius.*) Of a yellowish brown colour; has scanty hairs, flat features, and small eyes.—This variety takes in the whole inhabitants of Asia not included in the preceding division.

3. Black: (*Hom. Niger.*) Of black complexion; has frizzly hair, a flat nose, and thick lips.—The whole inhabitants of Africa, excepting those of its more northern parts.

4. Copper-coloured: (*Hom. Cupreus.*) The complexion of the skin resembles the colour of copper not burnished.—The whole inhabitants of America, except the Greenlanders and Esquimaux.

5. Tawny: (*Hom. Fuscus.*) Chiefly of a dark blackish-brown colour; having a broad nose, and harsh coarse straight hair.—The inhabitants of the southern islands, and of most of the Indian islands.

23  
By Buffon.

Buffon enumerates six varieties, 1. The polar or Lapland race; 2. The Tartar or Mongul; 3. The southern Asiatic; 4. The European; 5. The Ethiopian; and 6. The American. For an account of these varieties see Buffon's Natural History by Smellie, and Herder's Outlines of the Philosophy of the History of Man.

24  
By Virey.

Virey the disciple of Buffon, distributes man into five varieties, 1. The Celtic race, containing most of the Europeans. 2. The Mongul and Lapland. 3. Malay. 4. The Negro and Hottentot; and 5. The Carrib. For his description of these varieties, with portraits illustrating them, see his *Histoire Naturelle du Genre Humain*, tom. i. p. 129.

25  
By Cuvier.

Of all the divisions which we have seen, we consider that given by Cuvier, in his *Tableau Elementaire de l'Histoire Naturelle des Animaux*, as the least exceptionable; and as it is very concise, we shall here give a translation of it. Cuvier's enumeration is as follows.

The white race, with oval visage, long hair, pointed

nose; to which belong the polished natives of Europe, which appears to us the most comely of all the varieties, is also far superior to the rest in strength of genius, in courage, and activity. The Tartars, properly so called, from whom the Turks are descended; the Circassians, and other people about Mount Caucasus, who are the fairest of the human race; the Persians, the native inhabitants of Hindostan, the Arabians, the Moors who inhabit the north of Africa, and the Abyfinians, who appear, as well as the Jews, to be derived from the Arabians, belong to the same race with the Europeans. These nations are larger and fairer in the north, their hair is there fair, their eyes blue; whereas in the south they are dark, and often very brown, and their hair and eyes are black. There are intermixtures of these colours in the more temperate regions.

Man.  
26  
White race.

27  
Lapland race.  
2. All the north of the two continents is peopled with men that are very dark, with flat visage, black hair and eyes; with a body thick and extremely short. To this belong the Laplanders in Europe, the Samoiedes, Ostiaks, Tschutski in Asia; the Greenlanders and Esquimaux in America. The inhabitants of Finland resemble these almost in every circumstance, except that their height equals that of the European. The Hungarians and several wandering tribes of Asia, have a similar form, and similar language and manners with the Fins.

28  
Mongul race.  
3. The Mongul race, to which belong most of the people we call Tartars, as the Monguls, the Mantcheoux, the Calmucs, &c. and who have extended their conquests from China to Hindostan, and are even advanced as far as the frontiers of Europe, is characterized by a flat forehead, a small nose, prominent cheek-bones, black hair, very thin beard, small oblique eyes, thick lips, and a colour more or less yellow.

The Chinese and Japanese, and the Indians beyond the Ganges, to whom we give the name of Malays, appear to hold a near resemblance to the Monguls. The islands of the South sea, and the great continent of New Holland, are inhabited by original Malays. These who live nearest the equator have the skin almost as black as the Negroes. Such are, among others, the Papons.

29  
Negro race.  
4. The Negroes inhabit all the coasts on the south of Africa from the river Senegal to the Red sea. Besides the blackness of their skin, they are distinguished by their flat nose and forehead, their long muzzle, prominent cheek bones, and frizzled hair. They are blacker than the inhabitants of Guinea, and have the nose excessively long. Those of Congo are the most comely. Towards the tropic of Capricorn they become a little paler, and take the name of Caffres. Almost all the inhabitants of the eastern coast of Africa are of this subvariety. The Hottentots form another subdivision, which is found in the most southern point, and they have cheek-bones so prominent, that their visage appears triangular. Their colour is a brown olive.

It is supposed that the interior parts of Africa, which are very hilly, are inhabited by a race of white men like Abyfinia.

30  
Copperrace.  
5. America was peopled with men of a copper colour, with long and coarse hair, who, according to most travellers, generally want the beard, and even the hair on the body. Others assure us that they eradicate these. It is also said, that the fanciful form of their heads



Man. heads arise from the compression they undergo in infancy. This race comprehends the savage nations of America, and the remaining inhabitants of Mexico and Peru. It is towards the southern point of this continent that we find the tallest race of men in the universe; but their height, which the earlier travellers represented as gigantic, scarcely exceeds six feet. These are the people so celebrated under the name of Patagonians.

All these different varieties of men can intermix and produce children, who hold a mean between the forms and colours of their parents. These intermixtures can again mix with the original races, and the produce approaches to these races according to the degree of mixture. All these progenies are prolific as well as their fathers and mothers.

It appears that there are sometimes born in the different races of our variety, subjects of a milky whiteness, which is the effect of disease, and this colour is accompanied with feebleness of body and weakness of sight. Some travellers have believed that these men form entire nations, which they have called Dariens in America, Dondos or Albinos, in Africa, and Chackleras in India. See ALBINOS.

The different colours which distinguish the varieties of the human species, reside not in the cuticle, but in the mucus and reticular membrane which is immediately below it\*.

\* Cuvier.

31  
Varieties of  
man not  
distinct  
species.

Blumenbach remarks, that some late writers seem doubtful whether the numerous distinct races of men ought to be considered as mere varieties, which have arisen from degeneration, or as so many species altogether different. The cause of this seems chiefly to be, that they took too narrow a view in their researches, selected, perhaps, two races the most different from each other possible, and, overlooking the intermediate races that formed the connecting links between them, compared these two together; or, they fixed their attention too much on man, without examining other species of animals, and comparing their varieties and degeneration with those of the human species. The first fault is, when one, for example, places together a Senegal negro and an European Adonis, and at the same time forgets that there is not one of the bodily differences of these two beings, whether hair, colour, features, &c. which does not gradually run into the same thing of the other, by such a variety of shades, that no physiologist or naturalist is able to establish a certain boundary between these gradations, and consequently between the extremes themselves.

The second fault is, when people reason as if man were the only organized being in nature, and consider the varieties in his species to be strange and problematical, without reflecting that all these varieties are not more striking or more uncommon than those with which so many thousands of other species of organized beings degenerate, as it were, before our eyes.

We cannot here enter into the merits of the question, whether, considering the varieties of the human species which we have described, all these could have originated from one pair, as related in the Mosaic history. To those who affect to disbelieve the Mosaic account, it may be sufficient to reply, that to the almighty power of the Divine Being it was not more difficult to change and modify the descendants of one man and one wo-

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Man. man, in order to adapt them to the different regions of the earth which they were destined to occupy, than to create at the first five or six pairs placed in different situations, to be the progenitors of the nations that we now see inhabiting the globe.

On the nature and causes of the different colour of the skin, that characterizes the varieties of the human species, see the article COMPLEXION. On this subject we shall here add a curious comparison between the human race and swine, by Professor Blumenbach, intended to refute the second error into which he considers writers have fallen, in treating of the varieties of man.

32  
This illustrated by a comparison of man with swine.

More reasons, says he, than one have induced me to make choice of swine for this comparison; but, in particular, because they have a great similarity, in many respects, to man; not however, in the form of their entrails, as people formerly believed, and therefore studied the anatomy of the human body purposely in swine; so that even, in the 17th century, a celebrated dispute, which arose between the physicians of Heidelberg and those of Durlach, respecting the position of the heart in man, was determined, in consequence of orders from government, by inspecting a sow, to the great triumph of the party which really was in the wrong. Nor is it because in the time of Galen, according to repeated assertions, human flesh was said to have a taste perfectly similar to that of swine; nor because the fat, and the tanned hides of both, are very like to each other; but because both, in general, in regard to the economy of their bodily structure, taken on the whole, shew unexpectedly, on the first view, as well as on closer examination, a very striking similitude.

Both, for example, are domestic animals; both *omnivora*; both are dispersed throughout all the four quarters of the world; and both consequently are exposed, in numerous ways, to the principal causes of degeneration arising from climate, mode of life, nourishment, &c.: both, for the same reason, are subject to many diseases rarely found among other animals than men and swine, such as the stone in the bladder; or to diseases exclusively peculiar to these two, such as the worms found in meal-fed swine.

Another reason, continues he, why I have made choice of swine for the present comparison is, because the degeneration and descent from the original race are far more certain in these animals, and can be better traced, than in the varieties of other domestic animals. For no naturalist, I believe, has carried his scepticism so far as to doubt the descent of the domestic swine from the wild boar; which is much the more evident, as it is well known that wild pigs, when caught, may be easily rendered as tame and familiar as domestic swine: and the contrary also is the case; for if the latter by any accident get into the woods, they as readily become wild again; so that there are instances of such animals being shot for wild swine, and it has not been till they were opened, and found castrated, that people were led to a discovery of their origin, and how, and at what time, they ran away. It is well ascertained, that, before the discovery of America by the Spaniards, swine were unknown in that quarter of the world, and that they were afterwards carried thither from Europe. All the varieties, therefore, through which this animal has since degenerated, belong, with the original European race,



Man to one and the same species; and since no bodily difference is found in the human race, either in regard to stature, colour, the form of the skull, &c. as will presently appear, which is not observed in the same proportion in the swine race, this comparison, it is to be hoped, will silence those sceptics who have thought proper, on account of these varieties of the human species, to admit more than one species.

With regard to stature, the Patagonians, as is well known, have afforded the greatest employment to anthropologists. The romantic tales, however, of the old travellers, and even the more modest relations of English navigators, have been doubted by other travellers, who on the same coast fought in vain for such children of Anak. But even admitting every thing said of the size of these Patagonians, there is not among them nearly such an excess of stature as that observed in many parts of America among the swine originally carried thither from Europe; and of these we shall mention particularly those of Cuba, which are more than double the size of the original Europeans.

The natives of Guinea, Madagascar, New Holland, New Guinea, &c. are black; many American tribes are reddish brown, and the Europeans are white. An equal difference is observed among swine in different countries. In Piedmont, for example, they are black. When I passed, says our author, through that country, during the great fair for swine at Salenge, I did not see a single one of any other colour. In Bavaria, they are reddish brown; in Normandy they are all white. Human hair is, indeed, somewhat different from swine's bristles, yet, in the present point of view, they may be compared with each other. Fair hair is soft, and of a silky texture; black hair is coarser, and among several tribes, such as the Abyssinians, Negroes, and the inhabitants of New Holland, it is woolly, and most so among the Hottentots. In like manner, among the white swine in Normandy, as I was assured by an incomparable observer, Sulzer of Bonneburg, the hair on the whole body is longer and softer than among other swine; and even the bristles on the back are very little different, but lie flat, and are only longer than the hair on the other parts of the body. They cannot, therefore, be employed by the brush-makers. The difference between the hair of the wild boar and the domestic swine, particularly in regard to the softer part between the strong bristles, is, as is well known, still greater.

The whole difference between the cranium of a negro and that of an European, is not in the least degree greater than that equally striking difference which exists between the cranium of the wild boar and that of the domestic swine. Those who have not observed this in the animals themselves, need only to cast their eye on the figure which Daubenton has given of both.

I shall pass over, says Blumenbach, less national varieties which may be found among swine as well as among men, and only mention, that I have been assured by Mr Sulzer, that the peculiarity of having the bone of the leg remarkably long, as is the case among the Hindoos, has been remarked with regard to the swine in Normandy. They stand very long on their hind legs; their back, therefore, is highest at the rump, forming a kind of inclined plane, and the head proceeds in the same direction, so that the snout is not far from the ground. I shall here add, that the swine in some

Man countries have degenerated into races which in singularity far exceed every thing that has been found strange in bodily variety among the human race. Swine with solid hoofs were known to the ancients, and large herds of them are found in Hungary, Sweden, &c. In like manner the European swine, first carried by the Spaniards, in 1509, to the island of Cuba, at that time celebrated for its pearl fishery, degenerated into a monstrous race, with hoofs which were half a span in length.

From these facts our ingenious author concludes, that it is absurd to allow the vast variety of swine to have descended from one original pair, and to contend that the varieties of men are so many distinct species.

No part of the natural history of man can be more interesting than that which describes the progressive improvement and decay of human life, from the cradle to the grave. This subject has been treated of in a most animated manner by Buffon, and we shall here give an abridgement of this part of his work.

Nothing (says M. Buffon) exhibits such a striking picture of our weakness, as the condition of an infant immediately after birth. Incapable of employing its organs, it requires assistance of every kind. In the first moments of our existence, we present an image of pain and misery, and are more weak and helpless than the young of any other animal. At birth, the infant passes from one element to another; when it leaves the gentle warmth of the tranquil fluid by which it was completely surrounded in the womb of the mother, it becomes exposed to the impressions of the air, and instantly feels the effects of that active element. The air acting upon the olfactory nerves, and upon the organs of respiration, produces a shock something like that of freezing, by which the breast is expanded, and the air admitted into the lungs. In the mean time, the agitation of the diaphragm presses upon the bowels, and the excrements are thus for the first time discharged from the intestines, and the urine from the bladder. The air dilates the vesicles of the lungs, and after being rarefied to a certain degree, is expelled by the spring of the dilated fibres reacting upon this rarefied fluid. The infant now respire, and articulates sounds or cries.

Most animals are blind for some days after birth. Infants open their eyes to the light the moment they come into the world; but they are dull, fixed, and commonly blue. The new-born child cannot distinguish objects, because he is incapable of fixing his eyes upon them. The organ of vision is yet imperfect; the cornea is wrinkled; and perhaps the retina is too soft for receiving the images of external objects, and for communicating the sensation of distinct vision. At the end of 40 days, the infant begins to hear and to smile. About the same time it begins to look at bright objects, and frequently to turn its eyes towards the window, a candle, or any light. Now likewise it begins to weep; for its former cries and groans were not accompanied with tears. Smiles and tears are the effect of two internal sensations, both of which depend on the action of the mind. Thus they are peculiar to the human race, and serve to express mental pain or pleasure, while the cries, motions, and other marks of bodily pain and pleasure, are common to man and most of the other animals. Considering the subject as metaphysicians, we shall find that pain and pleasure form the universal

33  
Progress of  
human life.

34  
Infancy.



Man. universal power which sets all our passions in motion.

The size of an infant born at the full time is commonly 21 inches; and that *fœtus*, which nine months before was an imperceptible bubble, now weighs ten or twelve pounds, and sometimes more. The head is large in proportion to the body; and this disproportion, which is still greater in the first stage of the fœtus, continues during the period of infancy. The skin of a new-born child is of a reddish colour, because it is so fine and transparent as to allow a slight tint of the colour of the blood to shine through. The form of the body and members is by no means perfect in a child soon after birth; all the parts appear to be swollen. At the end of three days, a kind of jaundice generally comes on, and at the same time milk is to be found in the breasts of the infant, which may be squeezed out by the fingers. The swelling decreases as the child grows up.

The liquor contained in the amnios leaves a viscid whitish matter upon the body of the child. In this country we have the precaution to wash the new-born infant only with warm water; but it is the custom with whole nations inhabiting the coldest climates, to plunge their infants into cold water as soon as they are born, without their receiving the smallest injury. It is even said that the Laplanders leave their children in the snow till the cold has almost stopped their respiration, and then plunge them into a warm bath. Among these people, the children are also washed thrice a day during the first year of their life. The inhabitants of northern countries are persuaded that the cold bath tends to make men stronger and more robust, and on that account accustom their children to the use of it from their infancy. The truth is, that we are totally ignorant of the power of habit, or how far it can make our bodies capable of suffering, of acquiring, or of losing.

The child is not allowed to suck as soon as it is born; but time is given for discharging the liquor and slime from the stomach, and the *meconium* or excrement, which is of a black colour, from the intestines. As these substances might sour the milk, a little diluted wine mixed with sugar is first given to the infant, and the breast is not presented to it before 10 or 12 hours have elapsed.

The young of quadrupeds can of themselves find the way to the teat of the mother: it is not so with man. The mother, in order to suckle her child, must raise it to her breasts; and, at this feeble period of life, the infant can express its wants only by cries.

New-born children have need of frequent nourishment. During the day, the breast ought to be given them every two hours, and during the night as often as they awake. At first they sleep almost continually; and they seem never to awake but when pressed by hunger and pain. Sleep is useful and refreshing to them; and it is sometimes considered as necessary to employ narcotic doses, proportioned to the age and constitution of the child, for the purpose of procuring them repose. The common way of appeasing the cries of children is by rocking them in the cradle; but this agitation must be very gentle, otherwise a great risk is run of confusing the infant's brain, and of producing a total derangement. It is necessary to their being in

good health, that their sleep be long and natural. It is possible, however, that they may sleep too much, and thereby endanger their constitution. In that case, it would be proper to take them out of the cradle, and awaken them by a gentle motion, or by presenting some bright object to their eyes. At this age we receive the first impressions from the senses, which, without doubt, are more important during the rest of life than is generally imagined. Great care ought to be taken to place the cradle in such a manner that the child shall be directly opposite to the light, for the eyes are always directed towards that part of the room where the light is strongest; and if the cradle be placed sideways, one of them, by turning towards the light, will acquire greater strength than the other, and the child will squint. For the first two months, no other food should be given to the child but the milk of the nurse; and when it is of a weak and delicate constitution, this nourishment alone should be continued during the third or fourth month. A child, however robust and healthy, may be exposed to great danger and inconvenience, if any other aliment is administered before the end of the first month. In Holland, Italy, Turkey, and the whole Levant, the food of children is limited to the milk of the nurse for a whole year. The savages of Canada give their children suck for four, five, six, and sometimes even seven years. In this country, as nurses generally have not a sufficient quantity of milk to satisfy the appetite of their children, they commonly supply the want of it by panada, or other light preparations.

The teeth usually begin to appear about the age of <sup>35</sup> Dentition, seven months. The cutting of these, although a natural operation, does not follow the common laws of nature, which acts continually on the human body without occasioning the smallest pain, or even producing any sensation. Here a violent and painful effort is made, accompanied with cries and tears. Children at first lose their sprightliness and gaiety; they become sad, restless, and fretful. The gums are red, and swelled; but they afterwards become white, when the pressure of the teeth is so great as to stop the circulation of the blood. Children apply their fingers to their mouth, that they may remove the irritation which they feel there. Some relief is given, by putting into their hands a bit of ivory or coral, or of some other hard and smooth body, with which they rub the gums at the affected part. This pressure, being opposed to that of the teeth, calms the pain for a moment, contributes to make the membrane of the gum thinner, and facilitates its rupture. Nature here acts in opposition to herself; and an incision of the gum must sometimes take place, to allow a passage to the tooth. For the period of dentition, number of teeth, &c. see ANATOMY, N<sup>o</sup> 27.

When children are allowed to cry too long, and too <sup>36</sup> often, ruptures are sometimes occasioned by the efforts they make. These may easily be cured by the speedy application of bandages; but if this remedy has been too long delayed, the disease may continue through life. Children are very much subject to worms. Some of the bad effects occasioned by these animals might, according to Buffon, be prevented by giving them a little wine now and then, for fermented liquors have a tendency to prevent their generation.



Man.

Though the body is very delicate in the state of infancy, it is then less sensible of cold than at any other period of life. The internal heat appears to be greater. The pulse in children is much quicker than in adults, from which we are certainly entitled to infer, that the internal heat is greater in the same proportion.

37  
Mortality  
of infants.

Till three years of age, the life of a child is very precarious. In the second or third following years it becomes more certain, and at six or seven years of age a child has a better chance of living than at any other period of life. From the bills of mortality published at London, it appears, that of a certain number of children born at the same time, one-half of them die the three first years; according to which, one-half of the human race would be cut off before they are three years of age. But the mortality among children is not everywhere so great as in London. *M. Dupre du Saint-Maur*, from a great number of observations made in France, has shewn that half of the children born at the same time are not extinct till seven or eight years have elapsed.

Among the causes which have occasioned so great a mortality among children, and even among adults, the smallpox may be ranked as the chief. But luckily the means of alleviating the effects of this terrible scourge are now universally known by inoculation, and still more by the introduction of the cowpox.

38  
Speech.

Children begin learning to speak about the age of 12 or 15 months. In all languages, and among every people, the first syllables they utter are *ba, ba, ma, ma, pa, pa, taba, abada*; nor ought this to excite any surprise, when we consider that these syllables are the sounds most natural to man, because they consist of that vowel, and those consonants, the pronunciation of which require the smallest exertion in the organs of speech. Some children at two years of age articulate distinctly, and repeat whatever is said to them; but most children do not speak till the age of two years and a half, or three years, and often later.

The life of man and of other animals is measured only from the moment of birth; they enjoy existence, however, previous to that period, and begin to live in the state of a foetus. This state is described and explained under the article ANATOMY, N° 113. The period of infancy, which extends from the moment of birth to about 12 years of age, has already been considered.

39  
Adolescence and  
puberty.

The period of infancy is followed by that of adolescence. This begins, together with puberty, at the age of 12 or 14, and commonly ends in girls at 15, and in boys at 18, but sometimes not till 21, 23, and 25 years of age. According to its etymology (being derived from the Latin *adolescencia*), it is completed when the body has attained its full height. Thus, puberty becomes adolescence, and precedes youth. This is the spring of life; this is the season of pleasures, of loves, and of graces; but this smiling season is of short duration. Hitherto nature seems to have had nothing in view but the preservation and increase of her work; she has made no provision for the infant except what is necessary for life and growth. It has enjoyed a kind

of vegetable existence which was shut up within itself, and which it was incapable of communicating. In this first stage of life, reason is still asleep; but the principles of life soon multiply, and man has not only what is necessary to his own existence, but what enables him to give existence to others. This redundancy of life can no longer be confined, but endeavours to expand and diffuse itself\*.

Man.

\* Buffon.

Thus far we have followed Buffon in his animated sketch of the progress of human life; but here we must leave him for a while, as we consider the picture he has given of the approach of puberty and its corresponding circumstances to be less calculated to serve the purposes of scientific information, than to gratify idle and vicious curiosity, and rouse those passions which seldom require much excitement. The subjects of the procreation of the human species, of pregnancy and parturition, are strictly medical, and are treated of in sufficient detail under their proper heads in this work. Perhaps we shall be accused, by some of the philosophers of the present age, of being too fastidious in omitting so important and interesting a part of the natural history of man; but we had rather incur the imputation of negligence, than introduce into an article that is intended for general readers any thing that may offend the nicest delicacy.

Soon after the age of puberty the body of man attains its full stature. Some young people cease to grow after 15 or 16; while others continue to increase in height till 20, or even 23. During this interval they are usually very slender, but by degrees the limbs swell, and assume their proper shape; and before the age of 30, the body has generally attained its greatest perfection with regard to strength, confidence, and symmetry. Adolescence is considered as terminating at the age of 20 or 25, and at this period (according to the usual division of man's life into ages), youth begins. This continues till the age of 30 or 35.

The stature of man varies considerably in different climates, and under different circumstances. <sup>40</sup> Author's man. are by no means agreed as to what should be considered the medium height of the human body. Buffon states it at from five feet or five feet and an inch, to five feet four inches, making the medium height about five feet two inches. Haller on the contrary, reckons the true medium height of men in the temperate climates of Europe to be about five feet five, or six inches. In general, women are several inches shorter than men. It has been remarked by Haller, that in mountainous countries, such as Switzerland, the inhabitants of the plains are commonly much taller than those of the higher situations. It is difficult to ascertain with precision the actual limits of the human stature; but we may remark that in surveying the inhabited parts of the earth, we find more remarkable differences in the stature of different individuals of the same nation, than in the general height of different nations. In the same climate, among the same people, and often even in the same family, we find some individuals that are far above the medium standard, and others as far below it. The former we call giants, and the latter dwarfs. See GIANT and DWARF (A).

The

(A) In addition to the relations of gigantic men given under GIANT, we shall here present our readers with Blair's



Man. The body having acquired its full height during the period of adolescence, and its full dimensions in youth, remains for some years in the same state before it begins to decay. This is the period of manhood, which extends from the age of 30 or 35 to that of 40 or 45 years. During this stage, the powers of the body continue in full vigour, and the principal change which takes place in the human figure arises from the formation of fat in different parts. Excessive fatness disfigures the body, and becomes a very cumbersome and inconvenient load.

41  
Manhood.

42  
Declining age.

Physiologists give the name of old age to that period of life which commences immediately after the age of manhood and ends at death; and they distinguish green old age from the age of decrepitude. But in our opinion such an extensive signification of the word ought not to be admitted. We are not old men at the age of 40 or 45, and though the body then gives signs of decay, it has not yet arrived at the period of old age. M. Daubenton observes, that it would be more proper to call it the *declining age*, because nature then becomes retrograde, the fatness and good plight of the body diminish, and certain parts of it do not perform their functions with equal vigour.

The age of decline is from 40 or 45, to 60 or 65 years of age. At this time of life, the diminution of the fat is the cause of those wrinkles which begin to appear in the face and some other parts of the body. The skin, not being supported by the same quantity of fat, and being incapable, for want of elasticity, of contracting, sinks down and forms folds. In the decline of life, a remarkable change takes place also in vision. In the vigour of our days, the crystalline lens, being thicker and more diaphanous than the humours of the eye, enables us to read letters of a very small character at the distance of eight or ten inches. But when the age of decline comes on, the quantity of the humours of the eye diminishes,

they lose their clearness, and the transparent cornea becomes less convex. To remedy this inconvenience, we place what we wish to read at a greater distance from the eye; but vision is thereby very little improved, because the image of the object becomes smaller and more obscure. Another mark of the decline of life is a weakness of the stomach, and indigestion, in most people who do not take sufficient exercise in proportion to the quantity and quality of their food.

43  
Old age.

At 60, 63, or 65 years of age, the signs of decline become more and more visible, and indicate old age. This period commonly extends to the age of 70, sometimes to 75, but seldom to 80. When the body is extenuated and bent by old age, man then becomes crazy. Craziness therefore, is nothing but an infirm old age. The eyes and stomach then become weaker and weaker; leanness increases the number of the wrinkles, the beard and the hair become white; the strength and the memory begin to fail.

After 70, or at most 80 years of age, the life of man is nothing but labour and sorrow; such was the language of David near 3000 years ago. Some men of strong constitutions, and in good health, enjoy old age for a long time without decrepitude; but such instances are not very common. The infirmities of decrepitude continually increase, and at length death concludes the whole. This fatal term is uncertain. The only conclusions which we can form concerning the duration of life, must be derived from observations made on a great number of men who were born at the same time, and who died at different ages.

The signs of decrepitude form a striking picture of weakness, and announce the approaching dissolution of the body. The memory fails, the fibres become hard, the nerves blunted; deafness and blindness take place; the senses of smell, of touch, and of taste, are destroyed; the appetite fails; the necessity of eating, and more frequently

Blair's account of O'Brien, the Irish giant, who exhibited himself at London and Edinburgh a few years ago, and died very lately. He pretended to be nearly nine feet high. We insert this account the more readily, as it exactly agrees with what we ourselves observed when O'Brien was in Edinburgh.

"I visited this Irishman (says Mr Blair,) on the 5th of May 1804, at N<sup>o</sup> 11. Haymarket. He was of a very extraordinary stature, but not well formed. As he would not suffer a minute examination to be made of his person, it is impossible to give any other than a short description of him. He declined the proposal of walking across the room, and I believe was afraid of discovering his extreme imbecillity. He had the general aspect of a weak and unreflecting person, with an uncommonly low forehead; for as near as I could ascertain, the space above his eye-brows, in a perpendicular line to the top of his head, did not exceed two inches. He told me his age was 38 years, and that most of his ancestors, by his mother's side, were very large persons. The disproportionate size of his hands struck me with surprise, and in this he seemed to make his principal boast. He refused to allow a cast to be made of his hand, and said it had been done many years ago; but as I have seen that cast at Mr Bacon's, I am convinced the size is much too small to represent his present state of growth. All his joints were large, and perhaps rickety; his legs appeared swollen, misshapen, and I thought, dropical; however, he did not like my touching them. The feet were clumsy, and concealed as much as possible by high shoes. His limbs were not very stout, especially his arms, and I judged that he had scarcely got the use of them; for, in order to lift up his hand, he seemed obliged to swing the whole arm, as if he had no power of raising it by the action of the deltoid muscle. He certainly had a greater redundancy of bone than of muscle, and gave me the impression of a huge, overgrown, sickly boy; his voice being rather feeble as well as his bodily energies, and his age appearing under that which he affirmed. Indeed I find he gave a different account of himself to different visitors. The state of his pulse agreed with the general appearance of his person, viz. feeble, languid, and slow in its motions. With regard to his actual height, I felt anxious to detect the fallacy he held out of his being *nine feet*! Upon extending my arm to the utmost, I reached his eye-brow with my little finger: allowing his height to have been two inches and one-fourth above this, it could not be more in the whole than seven feet ten inches; so that I am persuaded the common opinion, founded on the giant's own tale, is greatly exaggerated." *Philosophical Magazine*, vol. xviii. p. 356.



Man.

frequently that of drinking, are alone felt; after the teeth fall out, mastication is imperfectly performed, and digestion is very bad; the lips fall inwards; the edges of the jaws can no longer approach each other; the muscles of the lower jaw become so weak, that they are unable to raise and support it. The body sinks down; the spine is bent outward, and the vertebrae grow together at the anterior part; the body becomes extremely lean; the strength fails; the decrepid wretch is unable to support himself; he is obliged to remain on a seat, or stretched in his bed; the bladder becomes paralytic; the intestines lose their spring; the circulation of the blood becomes slower; the strokes of the pulse no longer amount to the number of 80 in a minute as in the vigour of life, but are reduced to 24 and sometimes fewer; respiration is slower; the body loses its heat; the circulation of the blood ceases; death follows; and the dream of life is at an end.

44  
Death.

Nothing can be more humiliating to the pride and vanity of man than a comparison of the state to which his body is reduced by death, with that which it exhibits in the prime and vigour of youth. Let us contemplate a female in the prime of youth and beauty. That elegant voluptuous form, that graceful flexibility of motion, that gentle warmth, those cheeks crimsoned with the roses of delight, those brilliant eyes darting rays of love, or sparkling with the fire of genius; that countenance enlivened by sallies of wit, or animated by the glow of passion, appear united, to form a most fascinating being. A moment is sufficient to destroy the illusion. Sense and motion cease without any apparent cause; the body loses its heat; the muscles become flat, and the angular prominences of the bones appear; the lustre of the eye is gone; the cheeks and lips are livid. These, however, are but preludes of changes still more horrible. The flesh becomes successively blue, green, and black. It attracts humidity, and while one portion evaporates in infectious emanations,

another dissolves into a putrid sanies, which is also dissipated. In a word, after a few short days there remains only a small number of earthy and saline principles. The other elements are dispersed in air, and in water, to enter again into new combinations\*.

Man.

\* Cuvier's  
Comp.  
Anat. i. 2.

Man has no right to complain of the shortness of life. Throughout the whole of living beings, there are few who unite in a greater degree all the internal causes which tend to prolong its different periods. The term of gestation is very considerable; the rudiments of the teeth are very late in unfolding; his growth is slow, and is not completed before about 20 years have elapsed.—The age of puberty, also, is much later in man than in any other animal. In short, the parts of his body being composed of a softer and more flexible substance, are not so soon hardened as those of inferior animals. Man, therefore, seems to receive at his birth the seeds of a long life; if he reaches not the distant period which nature seemed to promise him, it must be owing to accidental causes foreign to himself. Instead of saying that he has finished his life, we ought rather to say that he has not completed it.

The natural and total duration of life is in some measure proportioned to the period of growth. A tree or an animal which soon acquires its full size, decays much sooner than another which continues to grow for a longer time. It is true that the life of animals is eight times longer than the period of their growth, we might conclude that the boundaries of human life may be extended to a century and a half.

45  
Duration  
of human  
life.

On the subject of longevity, and the general circumstances on which it depends, we have already treated under the article LONGEVITY, and have there given a list of a great number of persons who have been celebrated for the length of their lives. To this list we shall add a few more names in the note below (B); but on the general subject of longevity, we shall

(B) William Lecomte, a shepherd, died suddenly in 1776, in the county of Caux in Normandy, at the age of 110. Cramers, physician to the emperor, saw at Temeswar two brothers, the one aged 110, and the other 112, both of whom were fathers at that age. St Paul the hermit was 113 at his death. The Sieur Iwan-Horwaths, knight of the order of St Louis, died at Saar-Albe in Lorrain in 1775, aged almost 111. He was a great hunter. He undertook a long journey a short time before his death, and performed it on horseback. Roline Iwiwarouska died at Minsk in Lithuania at the age of 113. Fockjel Jonas died in the year 1775, aged 113. Marsk Jonas died at Vilejac in Hungary, aged 119. John Niethen of Bakler in Zealand lived to the age of 120. Eleonora Spicer died in 1773, in Virginia, aged 121. John Argus was born in the village of Lastua in Turkey, and died in 1779, at the age of 123, having six sons and three daughters, by whom he had posterity to the fifth generation. They amounted to the number of 160 souls, and all lived in the same village. His father died at the age of 120. In December 1777, there lived in Devonshire a farmer named John Brookey, who was 134 years of age, and had been fifteen times married. The Philosophical Transactions mention an Englishman called Eccleston, who lived to the age of 143. Another Englishman, named Effingham, died in 1757 at the age of 144. Niels Jukens of Hamerlet in Denmark died in 1764, aged 146. Christian Jacob Drakemberg died in 1770 at Archusen, in the 146th year of his age. This old man of the north was born at Stavangar in Norway in 1624, and at the age of 130 married a widow of 60. In Norway some men have lived to the age of 150. John Rovin, who was born at Szatlova-Carantz-Batcher, in the bannat of Temeswar, lived to the age of 172, and his wife to that of 164, having been married to him for 147 years. When Rovin died, their youngest son was 99 years of age. Peter Zorten a peasant, and a countryman of John Rovin, died in 1724 at the age of 185. His youngest son was then 97 years of age. The history and whole length pictures of John Rovin, Henry Jenkins, and Peter Zorten, are to be seen in the library of S. A. R. Prince Charles at Brussels; and engravings of Rovin and Zorten, with a short account of them, are given in Sir John Sinclair's "Code of Health and Longevity." Professor Hanovius at Dantzic, mentions in his nomenclature an old man who died at the age of 184; and another, then alive, had attained the extraordinary age of 186. For other instances, see Sir J. Sinclair's work above mentioned,



Man.  
46  
Portrait of  
a man  
formed for  
longevity.

Man.

shall add nothing to what has been said under that head, except the portrait of a man destined for longevity, drawn by the celebrated Hufeland.

He has a proper and well proportioned stature, without being too tall. He is rather of the middle size, and somewhat thick set. His complexion is not too florid; at any rate, too much ruddiness in youth is seldom a sign of longevity. His hair approaches rather to the fair than the black; his skin is strong, but not too rough. His head is not too big; he has large veins at the extremities, and his shoulders are rather round than flat. His neck is not too long; his belly does not project, and his hands are large, but not too deeply cleft. His foot is rather thick than long, and his legs are firm and round. He has also a broad arched chest, a strong voice, and the faculty of retaining his breath for a long time without difficulty. In general, there is a complete harmony in all his parts. His senses are good, but not too delicate; his pulse is clear and regular. His stomach is excellent, his appetite good, and digestion easy. He eats slowly, and has not too much thirst, which is always a sign of a rapid consumption. He is serene, active, susceptible of joy, love, and hope, but insensible to the impressions of hatred, anger, and avarice. His passions never become too violent. If he gives way to anger, he experiences an unusual flow of warmth, a kind of gentle fever, without any overflowing of the gall. He is fond of employment, particularly calm meditation, and agreeable speculations; is an optimist; a friend to natural affections, and domestic felicity; has no thirst after

the consistence of bone; the bones become more solid, and all the fibres are hardened. Almost all the fat wastes away; the skin becomes withered and scaly; wrinkles are gradually formed; and the hair grows white; the teeth fall out; the face loses its shape; the body is bent, and the colour and consistence of the crystalline humour become more perceptible. The first traces of this decay begin to be perceived at the age of 40, and sometimes sooner; this is the *age of decline*. They increase by slow degrees till 60, which is the period of old age. They increase more rapidly till the age of 70 or 75. At this period craziness begins, and continues always to increase. Next succeeds decrepitude, when the memory is gone, the use of the senses lost, the strength totally annihilated, the organs worn out, and the functions of the body almost destroyed. Little now remains to be lost, and before the age of 90 or 100, death terminates at once decrepitude and life.

The body then dies by little and little; its motion gradually diminishes; life is extinguished by successive gradations, and death is only the last term in the succession. When the motion of the heart, which continues longest, ceases, man has then breathed his last; he has passed from the state of life to the state of death; and as at his birth a breath opened to him the career of life, so with a breath he finishes his course.

This natural cause of death is common to all animals, and even to vegetables. We may observe that the centre of an oak first perishes and falls into dust, because these parts having become harder and more compact, can receive no further nourishment. The causes of our dissolution, therefore, are as necessary as death is inevitable; and it is no more in our power to retard this fatal term than to alter the established laws of the universe. In whatever manner death happens, the time thereof is unknown. It is considered, however, as at all times terrible, and the very thoughts of it fill the mind with fear and trouble. It is notwithstanding our duty frequently to direct our thoughts to that event, which must inevitably happen, and by a life of virtue and innocence to prepare against those consequences which we so much dread.

As in women the bones, the cartilages, the muscles, and every other part of the body, are softer and less solid than those of men, they must require more time in hardening to that degree which occasions death. Women of course ought to live longer than men. This reasoning is confirmed by experience; for by consulting the bills of mortality, it appears, that after women have passed a certain age, they live much longer than men who have arrived at the same age. In like manner, it is found by experience, that in women the age of youth is shorter and happier than in men, but that the period of old age is longer, and attended with more trouble.

It is not our business here to consider those circumstances which are calculated to preserve health and prolong life. Many of these are mentioned in the medical articles; and those who wish to make this subject their particular study, have now ample materials provided for them, in Sir John Sinclair's "Code of Health and Longevity."

*Isle of MAN*, an island in the Irish sea, lying about seven leagues north from Anglesey, about the same distance west from Lancashire, nearly the like distance.

\* Hufeland on prolonging Life, i. 423.  
M. Daubenton has given a table of the probabilities of the duration of life, of which the following is an abridgement. Of 23,994 children born at the same time, there will probably die,

In one year	-	7998
Remaining $\frac{3}{4}$ or 15,996	-	
In eight years	-	11,997
Remaining $\frac{1}{2}$ or 11,997	-	
In 38 years	-	15,996
Remaining $\frac{1}{4}$ or 7998	-	
In 50 years	-	17,994
Remaining $\frac{1}{5}$ or 5998	-	
In 61 years	-	19,995
Remaining $\frac{2}{5}$ or 3999	-	
In 70 years	-	21,595
Remaining $\frac{1}{10}$ or 2399	-	
In 80 years	-	22,395
Remaining $\frac{2}{10}$ or 599	-	
In 92 years	-	23,914
Remaining $\frac{1}{100}$ or 79	-	
In 100 years	-	23,992
Remaining $\frac{1}{100000}$ or 2.	-	

47  
Recapitulation.  
It thus appears, that a very small number of men indeed pass through all the periods of life, and arrive at the goal marked out by nature. Innumerable causes accelerate our dissolution. The life of man consists in the activity and exercise of his organs, which grow up and acquire strength during infancy, adolescence, and youth. No sooner has the body attained its utmost perfection, than it begins to decline. Its decay is at first imperceptible, but in progress of time the membranes become cartilaginous, and the cartilages acquire



distance south-east from Galloway, and nine leagues east from Ireland. Its form is long and narrow, stretching from the north-east of Ayre point to the Calf of Man, which lies south-west at least 30 English miles. Its breadth in some places is more than nine miles, in most places eight, and in some not above five; and it contains about 160 square miles.

The first author who mentions this island is Cæsar; for there can be as little doubt, that, by the *Mona* of which he speaks in his Commentaries, placing it in the midst between Britain and Ireland, we are to understand Man; as that the *Mona* of Tacitus, which he acquaints us had a fordable strait between it and the continent, can be applied only to Anglesey. Pliny has let down both islands; *Mona*, by which he intends Anglesey, and *Monabia*, which is Man. In Ptolemy we find *Monaada*, or *Monaida*, that is, the farther or more remote Môn. Orofius styles it *Menavia*; tells us, that it was not extremely fertile; and that this, as well as Ireland, was then possessed by the Scots. Beda, who distinguishes clearly two Menavian islands, names this the *northern Menavia*, bestowing the epithet of *southern* upon Anglesey. In some copies of Nennius, this isle is denominated *Eubonia*; in others, *Menavia*; but both are explained to mean *Man*. Alured of Beverley also speaks of it as one of the Menavian islands. The Britons, in their own language, called it *Manaw*, more properly *Main au*, i. e. "a little island," which seems to be Latinized in the word *Menavia*. All which clearly proves, that this small isle was early inhabited, and as well known to the rest of the world as either Britain or Ireland.

In the close of the first century, the Druids, who were the priests, prophets, and philosophers of the old Britons, were finally expelled by Julius Agrícola from the southern *Mona*; and we are told, that they then took shelter in the northern. This island they found well planted with firs; so that they had, in some measure, what they delighted in most, the shelter of trees; but, however, not the shelter of those trees in which they most delighted, viz. the oaks: and therefore these they introduced. No histories tell us this; but we learn it from more certain authority, great woods of fir having been discovered interred in the bowels of the earth, and here and there small groves of oaks; but as these trees are never met with intermixed, so it is plain they never grew together; and as the former are by far the most numerous, we may presume them the natural produce of the country, and that the latter were planted and preserved by the Druids. They gave the people, with whom they lived, and over whom they ruled, a gentle government, wife laws, but withal a very superstitious religion. It is also very likely that they hindered them, as much as they could, from having any correspondence with their neighbours; which is the reason that though the island is mentioned by so many writers, not one of them, before Orofius, says a word about the inhabitants. A little before this time, that is, in the beginning of the fifth century, the Scots had transported themselves thither, it is said, from Ireland. The tradition of the natives of Man (for they have a traditional history) begins at this period. They style this first discoverer *Monnan Mac Lear*; and they say that he was a magician, who kept this coun-

try covered with mists, so that the inhabitants of other places could never find it. But the ancient chronicles of Ireland inform us, that the true name of this adventurer was *Orghenius*, the son of Alladius, a prince in their island; and that he was surnamed *Mannan*, from his having first entered the island of Man, and *Mac Lir*, i. e. "the offspring of the sea," from his great skill in navigation. He promoted commerce; and is said to have given a good reception to St Patrick, by whom the natives were converted to Christianity.

The princes who ruled after him seem to have been of the same line with the kings of Scotland, with which country they had a great intercourse, assisting its monarchs in their wars, and having the education of their princes confided to them in time of peace.

In the beginning of the seventh century, Edwin king of Northumberland invaded the Menavian islands, ravaged Man, and kept it for some time, when, Beda assures us, there were in it about 300 families; which was less than a third part of the people in Anglesey, though Man wants but a third of the size of that island.

The second line of their princes they derive from Orri, who, they say, was the son of the king of Norway; and that there were 12 princes of this house who governed Man. The old constitution, settled by the Druids, while they swayed the sceptre, was perfectly restored; the country was well cultivated and well peopled; their subjects were equally versed in the exercise of arms and in the knowledge of the arts of peace: in a word, they had a considerable naval force, an extensive commerce, and were a great nation, though inhabiting only a little isle. Gutted the son of Orri built the castle of Rullyn, A. D. 960, which is a strong place, a large palace, and has subsisted now above 800 years. Macao was the ninth of these kings, and maintained an unsuccessful struggle against Edgar, who reduced all the little sovereigns of the different parts of Britain to own him for their lord; and who, upon the submission of Macao, made him his high-admiral, by which title (*archhipirata*, in the Latin of those times) he subscribes that monarch's charter to the abbey of Glastonbury.

After the death of Edward the Confessor, when Harold, who possessed the crown of England, had defeated the Norwegians at the battle of Stamford, there was amongst the fugitives one Goddard Crownan, the son of Harold the Black, of Iceland, who took shelter in the isle of Man. This isle was then governed by another Goddard, who was a descendant from Macao, and he gave him a very kind and friendly reception. Goddard Crownan, during the short stay he made in the island, perceived that his namesake was universally hated by his subjects; which inspired him with hopes that he might expel the king, and become master of the island. This he at last accomplished, after having defeated and killed Fingal the son of Goddard, who had succeeded his father. Upon this he assigned the north part of the island to the natives, and gave the south to his own people; becoming, in virtue of his conquest, the founder of their third race of princes. However he might acquire his kingdom, he governed it with spirit and prudence,



Man. prudence, made war with success in Ireland; gained several victories over the Scots in the Isles; and, making a tour through his new-obtained dominions, deceased in the island of Ilay. He left behind him three sons. A civil war breaking out between the two eldest, and both of them deceasing in a few years, Magnus king of Norway coming with a powerful fleet, possessed himself of Man and the Isles, and held them as long as he lived; but, being slain in Ireland, the people invited home Olave, the youngest son of Goddard Crownan, who had fled to the court of England, and been very honourably treated by Henry the Second. There were in the whole nine princes of this race, who were all of them feudatories to the kings of England; and often resorted to their court, were very kindly received, and had pensions bestowed upon them. Henry III. in particular, charged Olave, king of Man, with the defence of the coasts of England and Ireland; and granted him annually for that service 40 marks, 100 measures of wheat, and five pieces of wine. Upon the demise of Magnus, the last king of this isle, without heirs male, Alexander III. king of Scots, who had conquered the other isles, seized likewise upon this; which, as parcel of that kingdom, came into the hands of Edward I. who directed William Huntercumbe, guardian or warden of that isle for him, to restore it to John Baliol, who had done homage to him for the kingdom of Scotland.

But it seems there was still remaining a lady named *Austrica*, who claimed this sovereignty, as cousin and nearest of kin to the deceased Magnus. This claimant being able to obtain nothing from John Baliol, applied herself next to King Edward, as the superior lord. He, upon this application, by his writ which is yet extant, commanded both parties, in order to determine their right, to appear in the king's bench. The progress of this suit does not appear; but we know farther, that this lady, by a deed of gift, conveyed her claim to Sir Simon de Montacute; and, after many disputes, invasions by the Scots, and other accidents, the title was examined in parliament, in the seventh of Edward III. and solemnly adjudged to William de Montacute; to whom, by letters-patent, dated the same year, that monarch released all claim whatsoever.

In the succeeding reign, William Montacute, earl of Salisbury, sold it to Sir William Scroop, afterwards earl of Wiltshire; and, upon his losing his head, it was granted by Henry IV. to Henry Percy, earl of Northumberland; who, being attainted, had, by the grace of that king, all his lands restored, except the isle of Man, which the same monarch granted to Sir John Stanley, to be held by him of the king, his heirs and successors, by homage, and a cast of falcons to be presented at every coronation. Thus it was possessed by this noble family, who were created earls of Derby, till the reign of Queen Elizabeth; when, upon the demise of Earl Ferdinand, who left three daughters, it was, as Lord Coke tells us, adjudged to these ladies, and from them purchased by William earl of Derby, the brother of Ferdinand, from whom it was claimed by descent, and adjudged to the duke of Athol.

This island, from its situation directly in the mouth

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Man. of the channel, is very beneficial to Britain, by lessening the force of the tides, which would otherwise break with far greater violence than they do at present. It is frequently exposed to very high winds; and at other times to mists, which, however, are not at all unwholesome. The soil towards the north is dry and sandy, of consequence unfertile, but not unimprovable; the mountains, which may include near two-thirds of the island, are bleak and barren; yet afford excellent peat, and contain several kinds of metals. They maintain also a kind of small swine, called *purrs*, which are esteemed excellent pork. In the valleys there is as good pasture, hay, and corn, as in any of the northern counties; and the southern part of the island is as fine soil as can be wished. They have marl and limestone sufficient to render even their poorest lands fertile; excellent slate, ragstone, black marble, and some other kinds for building. They have vegetables of all sorts, and in the utmost perfection; potatoes in immense quantities; and, where proper pains have been taken, they have tolerable fruit. They have also hemp, flax, large crops of oats and barley, and some wheat. Hogs, sheep, goats, black cattle, and horses, they have in plenty; and, though small in size, yet if the country was thoroughly and skilfully cultivated, they might improve the breed of all animals, as experience has shown. They have rabbits and hares very fat and fine; tame and wild fowl in great plenty; and in their high mountains they have one airy of eagles and two of excellent hawks. Their rivulets furnish them with salmon, trout, eels, and other kinds of fresh-water fish; on their coasts are caught cod, turbot, ling, holibut, all sorts of shell-fish (oysters only are scarce, but large and good), and herrings, of which they made anciently a great profit, though this fishery is of late much declined.

The inhabitants of Man, though far from being unmixed, were perhaps, till within the course of the 18th century, more so than any other under the dominion of the crown of Great Britain; to which they are very proud of being subjects, though, like the inhabitants of Jersey and Guernsey, they have a constitution of their own, and a peculiarity of manners naturally resulting from a long enjoyment of it.—The Manks tongue is the only one spoken by the common people. It is the old British, mingled with Norse, or the Norwegian language, and the modern language. The clergy preach and read the common prayer in it. In ancient times they were distinguished by their stature, courage, and great skill in maritime affairs. They are at this day a brisk, lively, hardy, industrious, and well meaning people. Their frugality defends them from want: and though there are few that abound, there are as few in distress; and those that are, meet with a cheerful unconstrained relief. On the other hand, they are choleric, loquacious, and as the law till lately was cheap, and unencumbered with solicitors and attorneys, not a little litigious. The revenue, in the earl of Derby's time, amounted to about 2500l. a-year; from which, deducting his civil list, which was about 700l. the clear income amounted to 1800l. At the same time, the number of his subjects was computed at 20,000.—The sovereign of Man, though he has long ago waved the title of *king* was still in-



Man.

vested with regal rights and prerogatives: but the distinct jurisdiction of this little subordinate royalty, being found inconvenient for the purposes of public justice and for the revenue (it affording a commodious asylum for debtors, outlaws, and smugglers), authority was given to the treasury, by stat. 12 Geo. I. c. 28. to purchase the interest of the then proprietors for the use of the crown: which purchase was at length completed in the year 1765, and confirmed by stat. 5 Geo. III. c. 26. and 39.; whereby the whole island and all its dependencies (except the landed property of the Athol family), their manorial rights and emoluments, and the patronage of the bishopric and other ecclesiastical benefices, are unalienably vested in the crown, and subjected to the regulation of the British excise and customs.

The most general division of this island is into north and south; and it contains 17 parishes, of which five are market towns, the rest villages. Its division with regard to its civil government, is into six sherrings, every one having its proper coroner, who is in the nature of a sheriff, is intrusted with the peace of his district, secures criminals, brings them to justice, &c. The lord chief justice Coke says, "their laws were such as scarce to be found anywhere else." In July 1786, a copper coinage for the use of the island was issued from the Tower of London.—There is a ridge of mountains runs almost the length of the isle, from whence they have abundance of good water from the rivulets and springs; and Snafield, the highest, rises about 580 yards. The air is sharp and cold in winter, the frosts short, and the snow, especially near the sea, lies not long on the ground. Here are quarries of good stone, rocks of limestone and red freestone, and good slate, with some mines of lead, copper, and iron. The trade of this island was very great before the year 1726; but the late Lord Derby farming out his customs to foreigners, the insolence of these farmers drew on them the resentment of the government of England, who, by an act of parliament, deprived the inhabitants of an open trade with this kingdom. This naturally introduced a clandestine commerce, which they carried on with England and Ireland with prodigious success, and an immense quantity of foreign goods was run into both kingdoms, till the government in 1765 thought proper to put an entire stop to it, by purchasing the island of the duke of Athol, as already mentioned, and permitting a free trade with England. On the little isle of Peele, on the west side of Man, is a town of the same name, with a fortified castle. Before the south promontory of Man, is a little island called the *Calf of Man*: it is about three miles in circuit, and separated from Man by a channel about two furlongs broad. At one time of the year it abounds with puffins, and also with a species of ducks and drakes, by the English called *barnacles*, and by the Scots *selakes* and *solan geese*.

Few men of extraordinary talents have appeared in this island; perhaps, because few occasions have offered for calling them forth. The Rev. J. Stowell is an exception, master of the free grammar-school at Peele, who possessed the strongest powers of mind, was benevolent to the poor, free from pedantry, and forcibly illustrated all his precepts by his example.

The women in the isle of Man are not remarkable

for elegance of form or delicacy of features. The practice of her domestic duties, and the regulation of her domestic affairs, constitute the employment of the Manks wife; and if not so refined as the dames of more polished nations, she is perhaps as happy.

Landed property is very much divided in the island, there being scarcely six men who have estates above 500l. a year.

The internal scenery of the isle of Man is far from being beautiful, of which the chief cause is the want of wood; and the rivers are so small as to add little to the richness of the views. The Manks are fond of dancing, and dance well. Two balls in the year are given at Castletown; one on the king's birth day, the other on the queen's, and there are frequent private dances. At Ramsay, during the winter of 1801, a society of ladies and gentlemen was formed, which met three evenings in the week for the purpose of reading Shakespeare, and such a number of copies were procured, that each character of the drama was supported, by a separate individual.

The inhabitation of this isle (the number of which is estimated at 40,000) are of the church of England; and the bishop is style *Bishop of Sodor and Man*. He has no vote in the British house of peers. This bishoprick was first erected by Pope Gregory IV. and for its diocese had this isle and all the Hebrides or Western islands of Scotland; but which were called *Sodoroc* by the Danes, who went to them by the north, from the Swedish Sodor, Sail or Oar islands, from which the title of the bishop of Sodor is supposed to originate. The bishop's seat was at Rushin, or Castletown, in the isle of Man, and in Latin is entitled *Sodorenfis*. But when this island became dependent upon the kingdom of England, the Western islands withdrew themselves from the obedience of their bishop, and had a bishop of their own, whom they entitled also *Sodorenfis*, but commonly *Bishop of the Isles*. The patronage of the bishoprick was given, together with the island, to the Stanleys by King Edward IV. and came by an heir-female to the family of Athol, and, on a vacancy thereof, they nominated their designed bishop to the king, who dismissed him to the archbishop of York for consecration.—By an act of parliament, the 33d of King Henry VIII. this bishopric is declared in the province of York.

*MAN-of-war Bird.* See PELICANUS, ORNITHOLOGY Index.

MANAGE. See MANEGE.

MANASSEH, in Scripture history, the eldest son of Joseph, and grandson of the patriarch Jacob (Gen. xli. 50, 51.) was born in the year of the world 2290, before Jesus Christ 1714.

The tribe descended from him came out of Egypt, in number 32,200 men fit for battle, upwards of 20 years old, under the conduct of Gamaliel son of Pedahzur (Numb. ii. 20, 21.) This tribe was divided at their entrance into the land of Promise. One half had its portion beyond the river Jordan, and the other half on this side the river. The half tribe of Manasseh which settled beyond the river possessed the country of Bashan, from the river Jabbok to Mount Libanus, (Numb. xxii. 33. 34. &c.); and the other half tribe of Manasseh on this side Jordan, obtained for its inheritance the country between the tribe of Ephraim to the south

Man  
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Manasseh.



Manasseh  
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Manchester.  
south and the tribe of Issachar to the north, having the river Jordan to the east and the Mediterranean sea to the west, (Josh. xvi. xvii.)

MANASSEH, the 15th king of Judah, being the son and successor of Hezekiah. His acts are recorded in 2 Kings xx. xxi. and 2 Chr. xxxiii.

MANATI. See TRICHECUS, MAMMALIA Index.

MANCA, was a square piece of gold coin, commonly valued at 30 pence; and *manusa* was as much as a mark of silver, having its name from *manu cusa*, being coined with the hand: (*Leg. Canut.*) But the *manca* and *manusa* were not always of that value; for sometimes the former was valued at six shillings, and the latter, as used by the English Saxons, was equal in value to our half crown. *Manca sex solidis aestimetur*, (*Leg. H. 1. c. 69.*) Thorn in his chronicle, tells us that *manusa est pondus duorum solidorum et sex denariorum*; and with him agrees Du Cange, who says, that 20 *manca* make 50 shillings. *Manca* and *manusa* are promiscuously used in the old books for the same money.

MANCHA, a territory of Spain in the province of New Castile, lying between the river Guadiana and Andalusia. It is a mountainous country; and it was here that the famous Don Quixote was supposed to perform his exploits.

MANCHESTER, a town of Lancashire in England, situated in W. Long. 2. 42. N. Lat. 53. 27. Mr Whitaker conjectures, that the station was first occupied by the Britons about 500 years B. C. but that it did not receive any thing like the form of a town till 450 years after, or 50 years B. C. when the Britons of Cheshire made an irruption into the territories of their southern neighbours, and of consequence alarmed the Sestuntii, or inhabitants of Lancashire, so much, that they began to build fortresses, in order to defend their country. Its British name was *Mancenion*, that is, "a place of tents:" it was changed, however, into *Mancunium* by the Romans, who conquered it under Agricola in the memorable year of the Christian era 79. It appears also to have been called *Manduefuedum*, *Manduesedum*, *Manucium*, and *Mancestre*; from which last it seems most evident that the present name has been derived. It is distant from London 182 miles, and from Edinburgh, 214; standing near the conflux of the Irk and the Irwell, about three miles from the Mersey.

Manchester was accounted a large and populous town even 50 years ago; but since that time it is supposed to have increased in more than a triple proportion, both in respect to buildings and inhabitants. The houses amount to a number not far short of 12,000; and perhaps it may not be an overrate to reckon seven persons to each, when it is considered, that, of the houses occupied by working people of various descriptions, many have two, three, and sometimes more, families in each. For though many hundred houses have been built in the course of a few late years, yet are they constantly engaged as soon as possible; the avidity for building increasing with every new accession of inhabitants, and rents rising to a degree scarcely known in other places. The progress of this *incorporation* may be partly estimated by the price of building, land, and materials: a guinea per square yard, chief rent, having been refused for some central plots; and bricks selling at 24s. per 1000,

Manchester. which about four years since were not more than half the price. Such, however, has been the happy concurrence of ingenuity and industry, and such the astonishing improvements daily making in its numerous manufactures, together with the encouragement these afford to skilful artists in various branches, that streets must extend in proportion: yet population appears to have increased more rapidly than buildings; hence competitions naturally arise, and hence a *temporary* advance of rents. The manufactures of this town and neighbourhood, from humble domestic beginnings about two centuries ago, have now, after progressive improvements, acquired such celebrity, both in the scale of ornament and utility, as to spread in ten thousand forms and colours, not only in these kingdoms, but over all Europe, and even into the distant continents; being at once most precious mines of well-earned private wealth, and important contributors to the necessary public treasure of the state. Its post-office alone may afford an evidence of its extensive commerce. The population of the town may be further calculated from the great number of cotton factories within the boundaries of the town, wherein it is thought that 20,000 men, women, and children, are employed in the mere branches of preparing *warp* and *west*. If to these be added the many hands applied to weaving &c. &c. &c. beside all the more general mechanics, as well as householders, domestic servants, &c. Manchester may be ranked as the most populous market-town in Great Britain. The marriages in Manchester and Salford, from January 1791 to January 1792, were 1302, the christenings 2960, and the burials 2286. Hence, should it be computed that one in every 30 persons died, the number of inhabitants would amount to 68,580, which is thought to be much under the sum of an actual enumeration. The streets are about 600, many of them spacious and airy, great part of the old buildings being removed, and the new streets allowed a convenient breadth. The town is lighted every night by 2000 lamps, and guarded by nearly 200 watchmen.

The college was founded in 1422 by Thomas West Lord Delaware; and consisted of a warden, eight fellows, four clerks, and six choristers. About the same time the present collegiate church was built (timber only having been used for the former church). This church is a fine structure of what is termed the Gothic system, and is much enriched with sculpture. The collegiate body consists of a warden, four fellows, two chaplains, two clerks (one of whom, by a very late regulation, is to be at least bachelor of arts and in priest's orders), four choristers, and four singing men.

Beside the collegiate church, there are also the following. St Anne's, a handsome church, begun in 1709 and finished in 1723: it is in the gift of the bishop of Chester. St Mary's, built by the clergy of the collegiate church, and consecrated upwards of 30 years ago, is a neat and indeed an elegant edifice; as is St John's, which was built about 20 years since by the late Edward Byrom, Esq. The next presentation thereof is, by act of parliament, vested in his heirs, afterwards devolving to the warden and fellows of the collegiate church. St Paul's church was erected upwards of 12 years ago; and is a handsome spacious building, chiefly brick; to which has been added, within the last two years, a lofty and substantial stone tower. St James's church



Manchester.

church has been finished within the last ten years: it is a large well-lighted building of brick and stone, with a small stone steeple. St Michael's is also of brick and stone, with a square tower. It was built by the late Rev. Humphrey Owen (one of the chaplains of the collegiate church, and rector of St Mary's), in whose heirs the presentation is vested for a term of 60 years, and thenceforward in the warden and fellows of the college. To these may be added, St Thomas's, Ardwick Green, and Trinity church, Salford: for though the Irwell intervenes between Manchester and Salford, and each is governed by its respective constables; yet, being connected by three bridges, by mutual friendship, and by the common pursuit of universally useful manufactures and commerce, the two places are generally considered under the name of *Manchester*, as the borough of Southwark is not improperly deemed a part of the metropolis. In Salford there is likewise a Methodist chapel nearly finished. A new church is also about to be built and dedicated to St Stephen.—In Manchester a new church is lately finished, and called *St George's*; but divine service has not yet been performed therein. St Peter's church, at the end of Mosley-street, was begun about three years since: when finished, it will be a strong and elegant stone structure with a high spire; at present the body only is completed, and lighted, in a manner not very common, by six femicircular windows. The foundation of another church, to be called *St Clement's*, has also been laid, within the present year 1792, in Stephenson's square lately planned; and also one called the *New Jerusalem Church*, nearly finished. Besides the 14 churches above enumerated, there are, a Catholic chapel, a large Methodist chapel, a chapel for the people called *Quakers*, and 5 chapels for dissenters of other denominations.

Cheetham's Hospital, commonly called the College, because it was originally the place of residence of the warden and fellows, is deserving of particular notice. Humphrey Cheetham of Clayton near Manchester, Esq; having been remarkably successful in trade in the middle of the last century, bought the college, and liberally endowed it for the maintenance and education of 40 poor boys, admissible between the age of 6 and 10 years. By an improvement of the funds of the charity, the numbers of boys was increased to 60; and continued such till the Easter meeting of the fees in 1780, when another augmentation took place, and the number has since been constantly 80. The townships, pointed out by the founder for objects of his charity, are the following, together with the respective numbers admitted from each: Manchester, original number 14, now 28; Salford 6, now 12; Droyldon 3, now 6; Crumfall 2, now 4; Bolton-le-moors 10, now 20; Turton 5, now 10. So that 89 persons are now annually provided for by this liberal benefactor; including for the hospital a governor, one man and five women servants, a school-master; and, on the library establishment, a librarian. (See an authentic letter in the *Gent. Mag.* for June 1792, p. 521.) The boys of this hospital are comfortably provided for till the age of 14, when they are further clothed, and with a premium placed apprentices to useful trades; and, in order to incite early habits of industry, to make them good servants,

Manchester.

and at length good maisters, it has been suggested to furnish some kind of easy employment for a small part of their time not engaged at school. The Library, which occupies an extensive gallery of the same building, owes its foundation and increasing importance to the same benevolent source. The annual value of the fund originally bequeathed for the purchase of books and for a librarian's salary was 1161.; but by recent improvements of the estate, the income is more than thrice that sum. The books at this time amount to 10,000 volumes, of which a catalogue handsomely printed in 2 volumes 8vo has been published by the present librarian, the Rev. John Radcliffe, A.M. At stated hours on all days, except Sundays and other holidays, the studious may have free access to read, in the library, any book it contains; and in order to render it comfortable during the cold season of the year, several stoves are kept heated at the reading hours. This college and a large inclosed area are situated upon a high perpendicular rock, bounded by the Irk clove to its confluence with the Irwell; and is thought by Mr Whitaker to be included, as well as the collegiate church, within the boundaries of the ancient Roman pratorium; the whole of which sit towards the Irwell, as on the side of the Irk, is considerably elevated above the water and the opposite land of Salford. The free-school, higher up on the same side of the Irk, almost joining to the college, is supported by the rents of three mills; one of which is for grinding malt, another for corn, and the third is employed as a snuff mill. These rents are now increased to 700*l. per annum*, from which salaries are paid to three maisters and two assistants. The scholars educated here have certain exhibitions allowed at the university; and such of them as are entered at Brazen-nose college Oxford have a chance of obtaining some valuable exhibitions arising from lands in Manchester bequeathed by Mr Hulme. The deserved reputation of this school is a powerful recommendation of its scholars entering at the universities. The Academy is a large and commodious building, raised by the subscriptions of several respectable dissenters, and placed under the care of able tutors. Here youth above 14 years of age are admitted and instructed in the various branches of liberal knowledge, preparatory to trade or the professions. The Literary and Philosophical Society of Manchester was instituted in the beginning of the year 1781, and is well known by its Memoirs, of which three volumes 8vo have been published; these have been translated into the German language. A fourth volume is now in the press, and in all probability will be published in the spring of 1793. A society was established here in November 1789, under the name of the *Lancashire Humane Society*, for the encouragement of all who may attempt the recovery of persons apparently drowned. The Infirmary, Dispensary, Lunatic Asylum, and public Baths, are all situated on one large airy plot of land, in the most elevated and agreeable part of the town; a pleasant grass-plot and gravel-walk extending the whole length of the buildings; a canal intervening between them and the public street, next to which it is guarded by iron palisades. The Lying-in hospital is situated in Salford, at the end of the old bridge. A new Work-house is nearly completed; and for such a purpose a happier spot could not be found



Manchester. in any town than that whereon it is erected, being on an equal eminence with the college on the opposite side of the Irk, and promising the greatest possible comforts to such as may be necessitated to become its inhabitants. The Exchange was a strong good building; but since the late act of parliament obtained for farther improvements of the town, it has been sold and taken down, and its site formed into a convenient area, to the great advantage of the surrounding houses. The Theatre is a neat building, wherein the boxes are placed in a semicircle opposite to the stage. The Gentlemen's Concert-room is an elegant building, capacious enough to accommodate 1200 persons. The concerts are supported by annual subscriptions: but strangers and military gentlemen have free admission to the private concerts; as also to the public concerts, with a subscriber's ticket. The new Assembly-rooms are large and commodious. A Circus is almost finished. Here are two Market-places, the old and the new; which are well supplied with every thing in season, though at high rates. There are several charity-schools belonging to different churches and chapels, where children are furnished with clothes and taught to read. The Sunday-schools are numerous, and afford instruction to upwards of 5000 children.

Over the Irwell are three bridges, uniting the town with Salford: the old bridge is very high at the Manchester end, whence it slopes into Salford. The middle bridge, four feet wide, raised upon timber and flagged, is only for the accommodation of foot-passengers, who from the Manchester side must descend to it by nearly forty steps. The lower bridge is a handsome stone building of two arches; this bridge affords a level road for two or three carriages abreast. It was undertaken and finished by the private subscription of a few gentlemen; and a small toll is taken for all passing, which toll is now annually let by auction, and pays the proprietors remarkably well.—From Manchester there are likewise the same number of bridges over the Irk; only one, however, is adapted for the passage of carriages. The Irwell, having at a great expence been rendered navigable for vessels of 20 or 30 tons burden, there is a constant communication between Liverpool, Manchester, and the intermediate places on the Irwell and Mersey, to the great advantage of the proprietors and the country at large. This navigation, and more especially the duke of Bridgewater's canal, opening a passage from Manchester to the Mersey at 30 miles distance, have, together, greatly contributed to the present highly flourishing state of the town. Advantages still greater, because more widely diffusive, may result from the intended union of the Humber and the Mersey by means of canals. Indeed, every mile of canal would benefit many miles of land; and such would be the reciprocity of interest, that it would undoubtedly extend and be felt far beyond the visible measurement of the navigation."

The News Room and Library in Manchester is an elegant building, and an ornament to the town; and as it comprehends in it a news room, circulating library, and reading room, must be productive of general utility. The proposal of this institution met with much opposition at first; but it was finally carried by

the unwearied exertions of a Mr Robinson, a man whose character was universally loved and admired.

We must not omit to notice the new penitentiary house, called the *New Bailey*, for separate confinement of various criminals. Over the entrance is a large session room, with adjoining rooms for the magistrates, council, jurors, &c. Beyond this, in the centre of a very large area inclosed by very high walls, stands the Prison, an extensive building, forming a cross three stories high; and the four wards of each story may in an instant be seen by any person in its centre. This prison is kept surprisngly neat and healthy; and such as can work at any trade, and are not confined for crimes of the greatest magnitude, are employed in a variety of branches; so that one may be seen beating and cleansing cotton, another carding it, another roving, and a fourth spinning. In the next place may be observed a man or a woman busy at the loom; and in another, one or more engaged in cutting and raising the velvet pile. Hence industry is not suffered to slumber in the solitary cell, nor to quit it under the acquired impressions of that torpor which formerly accompanied the emancipated prisoner from his dungeon; rendering him, perhaps, totally unfit for the duties of honest society, though well qualified, in all probability, to hold with gamblers, and be then, if not before, initiated into their pernicious mysteries.—At Kersal-moor, three miles distant, horse races are annually permitted. The banks of the rivers and various brooks about the town afford excellent situations for the numerous dye-houses employed for a multitude of fabrics. Among other things, the manufacture and finishing of hats is carried on to an extent of great importance.—The general market is here on Saturdays. Tuesday's market is chiefly for transacting business between the traders and manufacturers of the town and circumjacent country. The fairs are on Whit-Monday, October 1st, and November 17th.

Manchester is a manor with courts leet and baron. It sends no members to parliament, but gives title to a duke. The annual fall of rain is here about 42 inches; though from January 1791 to January 1792 it was 44 inches. The sun's greatest heat in 1791 was 76°, July 17.

MANCHINEEL. See HIPPOMANE, BOTANY Index.

MANCIPATIO, was a term made use of in the Roman law, and may be thus explained; every father had such a regal authority over his son, that before the son could be released from his subjection and made free, he must be three times over sold and bought, his natural father being the vender. The vendee was called *pater fiduciarius*. After this fictitious bargain, the *pater fiduciarius* sold him again to the natural father, who could then, but not till then, *manumit* or make him free. The imaginary sale was called *mancipatio*; and the act of giving liberty or setting him free after this was called *emancipatio*.

MANCIPATIO also signifies the selling or alienating of certain lands by the balance, or money paid by weight, and five witnesses. This mode of alienation took place only amongst Roman citizens, and that only in respect to certain estates situated in Italy, which were called *mancipia*.

MANCIPIE



Manciple  
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Mandarins.

**MANCIPIE** (*manceps*), a clerk of the kitchen, or caterer. An officer in the inner temple was anciently so called, who is now the steward there; of whom Chaucer, the ancient English poet, some time a student of that house, thus writes:

A manciple there was within the temple,  
Of which all caterers might take ensample.

This officer still remains in colleges in the universities.

**MANCUNIUM**, in *Ancient Geography*, a town of the Brigantines in Britain. Now *Manchester* in Lancashire. See **MANCHESTER**.

**MANCUS** (formed of *manu cufus*), in antiquity, an Anglo-Saxon gold coin, equal in value to  $2\frac{1}{2}$  solidi, or 30 pence; and in weight to 55 Troy grains. The first account of this coin that occurs in the history of our country, is about the close of the 8th century, in an embassy of Cenwulf king of Mercia to Leo III. requesting the restoration of the jurisdiction of the see of Canterbury: this embassy was enforced by a present of 120 mancuses. Ethelwolf also sent yearly to Rome 300 mancuses: and these coins are said to have continued in some form or other till towards the conclusion of the Saxon government. The heriots of the nobility are chiefly estimated by this standard in Canute's laws. It came originally from Italy, where it was called *ducat*: and is supposed to have been the same with the drachma or miliarenfis current in the Byzantine empire.

**MANDAMUS**, in *Law*, a writ that issues out of the court of king's-bench, sent to a corporation, commanding them to admit or restore a person to his office. This writ also lies where justices of the peace refuse to admit a person to take the oaths in order to qualify himself for enjoying any post or office; or where a bishop or archdeacon refuses to grant a probate of a will, to admit an executor to prove it, or to swear a church-warden, &c.

**MANDANES**, an Indian prince and philosopher, who for the renown of his wisdom was invited by the ambassadors of Alexander the Great to the banquet of the son of Jupiter. A reward was promised him if he obeyed, but he was threatened with punishment in case of a refusal. Unmoved by promises and threatenings, the philosopher dismissed them with observing, that though Alexander ruled over a great part of the universe, he was not the son of Jupiter; and that he gave himself no trouble about the presents of a man who possessed not wherewithal to content himself. "I despise his threats (added he): if I live, India is sufficient for my subsistence; and to me death has no terrors, for it will only be an exchange of old age and infirmity for the happiness of a better life."

**MANDARINS**, a name given to the magistrates and governors of provinces in China, who are chosen out of the most learned men, and whose government is always at a great distance from the place of their birth. *Mandarin* is also a name given by the Chinese to the learned language of the country; for besides the language peculiar to every province, there is one common to all the learned in the empire, which is in China what Latin is in Europe; this is called the *mandarin tongue*, or the *language of the court*.

**MANDATE**, in *Law*, a judicial commandment to do something. See the article **MANDAMUS**.

**MANDATE**, in the canon law, a rescript of the pope commanding an ordinary collator to put the person therein named in possession of the first vacant benefice in his collation.

**MANDATUM**, was a fee or retainer given by the Romans to the *procuratores* and *advocati*. The *mandatum* was a necessary condition, without which they had not the liberty of pleading. Thus the legal eloquence of Rome, like that of our own country, could not be unlocked without a golden key.

**MANDERSCHEIT**, a town of Germany in the circle of the Lower Rhine, and in the electorate of Triers, capital of a county of the same name, between the diocese of Triers and the duchy of Juliers. E. Long. 6. 32. N. Lat. 50. 20.

**MANDEVILLE**, SIR JOHN, a physician, celebrated on account of his travels, was born at St Alban's, about the beginning of the 14th century. He had a liberal education, and applied himself to the study of physic; but being at length seized with an invincible desire of seeing distant parts of the globe, he left England in 1332, and did not return till 34 years after. His friends, who had long supposed him dead, did not know him when he appeared. He had travelled through almost all the east, and made himself master of a great variety of languages. He particularly visited Scythia, Armenia the Greater and Less, Egypt, Arabia, Syria, Media, Mesopotamia, Persia, Chaldea, Greece, Dalmatia, &c. His rambling disposition did not suffer him to rest; for he left his own country a second time, and died at Liege in the Netherlands in 1732. He wrote An Itinerary, or an Account of his Travels, in English, French, and Latin.

**MANDEVILLE**, *Bernard de*, an eminent writer in the 18th century, was born in Holland, where he studied physic, and took the degree of doctor in that faculty. He afterwards came over into England, and in 1714 published a poem, entitled "The Grumbling Hive, or Knaves turned Honest;" upon which he afterwards wrote remarks, and published the whole at London, 1723, in 8vo, under the title of "The Fable of the Bees, or private Vices made public Benefits; with an Essay on Charity and Charity-schools, and a Search into the Nature of Society." This book was presented by the jury of Middlesex in July the same year, and severely animadverted upon in "A Letter to the Right Honourable Lord C." printed in the London Journal of Saturday July 27. 1723. Our author published a Vindication. His book was attacked by several writers. He published other pieces, and died in 1724.

**MANDING**, a large state in the interior of Africa, situated in N. Lat. 12. 40. and W. Long. 6. 40. The government, according to Mr Park, seems to be a kind of republic, or rather an oligarchy. Many species of edible roots are found here; but the sugar cane, coffee, and the cocoa tree, appear to be unknown to the inhabitants. The Mandingoes are reputed a very gentle race of people, cheerful in their dispositions, inquisitive, credulous, simple, and fond of flattery. The men, in general, are about the middle size, well-shaped, strong, and capable of enduring great labour; the women are good-

Mandate  
||  
Manding.



Manding. good-natured, sprightly, and agreeable. Both sexes dress in cotton cloth of their own manufacture, and both seem irresistibly inclined to commit depredations on the property of unprotected strangers; yet, strange as it may appear, they will contribute to the personal safety of the very people whom they are bent upon plundering.

Parental and filial affection is very strong between the mother and her child, but not so between the father and his children, which must originate from that divided love which never fails to be an attendant on polygamy. The care of the mother extends to the cultivation of the mind; and one of the first lessons in which they instruct their offspring, is the *practice of truth*. To suckle their children three years is an ordinary occurrence, during which time the husband devotes all his attention to his other wives. When a young man intends to marry a young girl, he first addresses the parents, as her consent is not deemed necessary. If the parents are agreeable, she must either accept of the hand of her lover, or continue unmarried all her life long. The Mandingoes practise circumcision both on males and females, which is a very painful operation, but not performed by them from any religious motive, for they have a superstitious notion that it contributes to render the married state prolific. Mr Park assures us, that the belief of one God, and a future state of rewards and punishments, is universal among them, but that the management of all sublunary concerns is committed to certain subordinate or tutelary agents, whose wrath they deprecate by every mean in their power. These people seldom arrive at old age, being gray-headed and covered with wrinkles about 40, and few reach the age of 60, although their diseases are few, being confined almost to fevers, fluxes, elephantiasis, and a leprosy of the worst kind, together with the *Guinea worm*. Their feelings, on the death of a relation, are manifested by loud and dismal howlings; and the body is interred, when rolled up in white cotton with a mat above it, on the day of its decease. The men cultivate the ground, and the women manufacture cotton cloth, viz. the spinning and dyeing of it, for it is wove by the men in looms of about four inches broad. Here also there are manufactories of leather and iron. They tan and dress leather with great expedition, and are said to be acquainted with the smelting of gold, which they convert into a great variety of ornaments, executed with much taste and ingenuity.

Their notions of geography are rather puerile, as they conceive the earth to be an extended plane, the termination of which no eye has as yet discovered, it being, according to them, overhung with clouds and darkness. They suppose the sea to be a large river of salt water, on the farther shore of which is situated a country called *Tobambodoo*, or the land of the white people; at a distance from which they describe another country, which they believe to be inhabited by cannibals of a gigantic size, called *Koomi*.

As to their ideas of property, they consider the lands in native woods to belong to government. When any individual of free condition has the means of cultivating more land than he actually possesses, he applies to the chief man of the district, who allows him an extension of territory, on condition of forfeiture, if the lands are

not brought into cultivation by a given period. The condition being fulfilled, the soil becomes vested in the possessor, and in all probability descends to his heirs.

MANDRAGON. See ATROPA, BOTANY *Index*.  
MANDRAKE. See ATROPA and MUSA, BOTANY *Index*.

MANDREL, a kind of wooden pulley, making a member of the turner's lathe. Of these there are several kinds; as *Flat Mandrels*, which have three or more little pegs or points near the verge, and are used for turning flat boards on. *Pin Mandrels*, which have a long wooden shank to fit into a round hole made in the work to be turned. *Hollow Mandrels*, which are hollow of themselves, and used for turning hollow work. *Screw Mandrels*, for turning screws, &c.

MANE, the hair hanging down from a horse's neck; which should be long, thin, and fine: and if frizzled, so much the better.

MANEGE, or MANAGE, the exercise of riding the great horse; or the ground set apart for that purpose; which is sometimes covered, for continuing the exercise in bad weather; and sometimes open, in order to give more liberty and freedom both to the horseman and horse. See HORSEMANSHIP.

The word is borrowed from the French *manage*, and that from the Italian *maneggio*; or, as some will have it, *à manu agendo*, "acting with the hand."

MANES, a poetical term, signifying the shades or souls of the deceased. The heathens used a variety of ceremonies and sacrifices to appease the manes of those who were deprived of burial. See LEMURES and LEMURIA.

*Dii MANES*, were the same with *inferi*, or the infernal gods, who tormented men; and to these the heathens offered sacrifices to assuage their indignation.

The heathen theology is a little obscure with regard to these gods manes. Some hold, that they were the souls of the dead; others, that they were the genii of men; which last opinion suits best with the etymology of the word.

The heathens, it is pretty evident, used the word *manes* in several senses; so that it sometimes signified the ghosts of the departed, and sometimes the infernal or subterraneous deities, and in general all divinities that presided over tombs.

The invocation of the manes of the dead seems to have been very frequent among the Thesalians; but it was expressly prohibited by the Romans. See LARES.

MANES the founder of the Manichean system. See MANICHEES.

MANETHO, an ancient Egyptian historian, who pretended to take all his accounts from the sacred inscriptions on the pillars of Hermes Trismegistus. He was high priest of Heliopolis in the time of Ptolemy Philadelphus, at whose request he wrote his history in Greek; beginning from their gods, and continuing it down to near the time of Darius Codomanus who was conquered by Alexander the Great. His history of Egypt is a celebrated work, that is often quoted by Josephus and other ancient authors. Julius Africanus gave an abridgement of it in his Chronology. Manetho's work is however lost; and there only

Mandra-  
gora  
||  
Manetho.



*Manfredonia* only remain some fragments extracted from Julius Africanus, which are to be found in Eusebius's *Chronica*.

*Mangeart.*

**MANFREDONIA**, a port town of Naples, on the gulf of Venice, which arose on the ruins of the ancient Sipontum; (see the article *SIPONTUM*). It received its name from its founder *Manfred*; who transplanted hither the few inhabitants that remained at Sipontum, and attracted other settlers to it by various privileges and exemptions. In order to found it under the most favourable auspices, he called together all the famous professors of astrology (a science in which both he and his father placed great confidence), and caused them to calculate the happiest hour and minute for laying the first stone. He himself drew the plans, traced the walls and streets, superintended the works, and by his presence and largesses animated the workmen to finish them in a very short space of time. The port was secured from storms by a pier; the ramparts were built of the most solid materials; and in the great tower was placed a bell of so considerable a volume as to be heard over all the plain of Capitanata, in order to alarm the country in case of an invasion. Charles of Anjou afterwards removed the bell to Barri, and offered it at the shrine of St Nicholas, as a thanksgiving for the recovery of one of his children. In spite of all the precautions taken by Manfred to secure a brilliant destiny to his new city, neither his pains, nor the horoscopes of his wizards, have been able to render it opulent or powerful. At present, Mr Swinburne informs us, it scarce musters 6000 inhabitants, though most of the corn exported from the province is shipped off here, and a direct trade carried on with Venice and Greece, for which reason there is a lazaretto established; but from some late instances we may gather, that if the kingdom of Naples has for many years past remained free from the plague, it is more owing to good luck, and the very trifling communication with Turkey, than to the vigilance or incorruptibility of the officers of this port. In 1620, the Turks landed and pillaged Manfredonia. All sorts of vegetables abound here, for flavour and succulency infinitely superior to those raised by continual waterings in the cineritious soil of Naples. Lettuce in particular is delicious, and fish plentiful and cheap.

**MANGANESE**, or **MAGNESIA NIGRA**, a metallic substance, the oxide of which has been long known by the name of glass-makers soap, from its property of rendering glass colourless. See *CHEMISTRY* and *MINERALOGY Index*.

**MANGE**, in dogs. See *FARRIERY Index*.

**MANGE**. See *FARRIERY*, N<sup>o</sup> 333.

**MANGEART**, **DOM THOMAS**, a Benedictine of the congregation of St Vanne and St Hidulphe, whose knowledge was an ornament to his order. It gained him also the titles of antiquarian, librarian, and counsellor, to Charles duke of Lorraine. He was preparing a very considerable work when he died, A. D. 1763, before he had put his last hand to his book, which was published by Abbé Jacquin. This production appeared in 1763, in folio, with this title: *Introduction à la science des Medailles, pour servir à la connoissance des Dieux, de la Religion, des Sciences, des Arts, et de tout ce qui appartient à l'Histoire ancienne, avec les preuves tirées des Medailles*. The elementary

treatises on the numismatic science were not sufficiently extensive, and the particular dissertations were by far too tedious and prolix. This learned Benedictine has collected into a single volume all the principles contained in the former, and all the ideas of any consequence which are to be found scattered through the latter. His work may serve as a supplement to Montfaucon's *Antiquity explained*. From Mangeart we likewise have a volume of sermons; and a treatise on Purgatory; Nancy, 1739, 2 vols 12mo.

**MANGEL WURZEL**. See *BETA*, *BOTANY Index*; and *AGRICULTURE Index*.

**MANGER**, is a raised trough under the rack in the stall, made for receiving the grain or corn that a horse eats.

**MANGER**, a small apartment, extending athwart the lower deck of a ship of war, immediately within the hause-holes, and fenced on the after part by a partition, which separates it from the other part of the deck behind it. This partition serves as a fence to interrupt the passage of the water, which occasionally gushes in at the hause-holes, or falls from the wet cable whilst it is heaved in by the capstern. The water, thus prevented from running aft, is immediately returned into the sea by several small channels, called *scuppers*, cut through the ship's side within the manger. The manger is therefore particularly useful in giving a contrary direction to the water that enters at the hause-holes, which would otherwise run aft in great streams upon the lower deck, and render it extremely wet and uncomfortable, particularly in tempestuous weather, to the men who mess and sleep in different parts thereof.

**MANGET**, **JOHN-JAMES**, an eminent physician, born at Geneva in 1652. The elector of Brandenburg made him his first physician in 1699; in which post he continued till his death, which happened at Geneva in 1742. He wrote many works; the most known of which are, 1. A collection of several Pharmacopœias, in folio. 2. *Bibliotheca Pharmaceutico-medica*. 3. *Bibliotheca Anatomica*. 4. *Bibliotheca Chemica*. 5. *Bibliotheca Chirurgica*. 6. A *Bibliotheca* of all the authors who have written on medicine, in 4 vols folio. All these works are in Latin. Daniel le Clerc, the author of a History of Physic, assisted him in writing them.

**MANGIFERA**, the **MANGO-TREE**; a genus of plants belonging to the pentandria class; and in the natural method ranking with those of which the order is doubtful. See *BOTANY Index*.

**MANGLE**, a machine for smoothing linen. See *MECHANICS Index*.

**MANGOSTAN**, or **MANGOSTEEN**. See *GARCINIA*, *BOTANY Index*.

**MANGROVE**. See *RHIZOPHORA*, *BOTANY Index*.

**MANHEIM**, a town of Germany, in the Lower Palatinate, with a very strong citadel, and a palace, where the elector Palatine often resides. It is seated at the confluence of the rivers Neckar and Rhine, in E. Long. 8. 33. N. Lat. 49. 25. It surrendered to the French in September 1795; but it was retaken by the Austrians in November following.

**MANHOOD**, that stage of life which succeeds puberty or adolescence. See *MAN*.

**MANIA**, or **MADNESS**. See *MEDICINE Index*.

**MANICHEES**,

*Mangel-wurzel*  
||  
*Mania*.



*Manichees.* MANICHEES, or MANICHEANS (*Manichei*), a sect of ancient heretics, who asserted two principles; so called from their author *Manes* or *Manichæus*, a Persian by nation, and educated among the Magi, being himself one of that number before he embraced Christianity.

This heresy had its first rise about the year 277, and spread itself principally in Arabia, Egypt, and Africa. St Epiphanius, who treats of it at large, observes that the true name of this heresiarch was Cubricus; and that he changed it for *Manes*, which in the Persian or Babylonish language signifies *vestil*. A rich widow, whose servant he had been, dying without issue, left him store of wealth; after which he assumed the title of the *apostle or envoy of Jesus Christ*.

Manes was not contented with the quality of apostle of Jesus Christ, but he also assumed that of the Paraclete, whom Christ had promised to send: which Augustine explains, by saying that Manes endeavoured to persuade men, that the Holy Ghost did personally dwell in him with full authority. He left several disciples, and among others, Addas, Thomas, and Hermas. These he sent in his lifetime into several provinces to preach his doctrine. Manes, having undertaken to cure the king of Persia's son, and not succeeding, was put in prison upon the young prince's death, whence he made his escape; but he was apprehended soon after, and flayed alive.

However, the oriental writers, cited by D'Herbelot and Hyde, tells us, that Manes, after having been protected in a singular manner by Hormizdas, who succeeded Sapor in the Persian throne, but who was not able to defend him, at length, against the united hatred of the Christians, the Magi, the Jews, and the Pagans, was shut up in a strong castle, to serve him as a refuge against those who persecuted him on account of his doctrine. They add, that after the death of Hormizdas, Varanes I. his successor, first protected Manes, but afterwards gave him up to the fury of the Magi, whose resentment against him was due to his having adopted the Sadducean principles, as some say; while others attribute it to his having mingled the tenets of the Magi with the doctrines of Christianity.

However, it is certain that the Manicheans celebrated the day of their master's death. It has been a subject of much controversy whether Manes was an impostor. The learned Dr Lardner has examined the arguments on both sides; and though he does not choose to deny that he was an impostor, he does not discern evident proofs of it. He acknowledges, that he was an arrogant philosopher and a great schemist; but whether he was an impostor, he cannot certainly say. He was much too fond of philosophical notions, which he endeavoured to bring into religion, for which he is to be blamed: nevertheless, he observes, that every bold dogmatizer is not an impostor.

The doctrine of Manes was a motley mixture of the tenets of Christianity with the ancient philosophy of the Persians, in which he had been instructed during his youth. He combined these two systems, and applied and accommodated to Jesus Christ the characters and actions which the Persians attributed to the god Mithras.

He established two principles, viz. a good and an evil one: the first a most pure and subtle matter,

which he called *light*, did nothing but good; and the *second*, a gross and corrupt substance, which he called *darkness*, nothing but evil. This philosophy is very ancient; and Plutarch treats of it at large in his *Isis and Osiris*.

Manes borrowed many things from the ancient Gnostics; on which account many authors consider the Manicheans as a branch of the Gnostics.

In truth, the Manichean doctrine was a system of philosophy rather than of religion. They made use of amulets, in imitation of the Basilidians; and are said to have made profession of astronomy and astrology. They denied that Jesus Christ, who was only God, assumed a true human body, and maintained it was only imaginary; and therefore they denied his incarnation, death, &c. They pretended that the law of Moses did not come from God, or the good principle, but from the evil one; and that for this reason it was abrogated. They rejected almost all the sacred books in which Christians look for the sublime truths of their holy religion. They affirmed, that the Old Testament was not the work of God, but of the prince of darkness, who was substituted by the Jews in the place of the true God. They abstained entirely from eating the flesh of any animal; following herein the doctrine of the ancient Pythagoreans; they also condemned marriage. The rest of their errors may be seen in St Epiphanius and St Augustine; which last, having been of their sect, may be presumed to have been thoroughly acquainted with them.

Though the Manichees professed to receive the books of the New Testament, yet in effect they only took so much of them as suited with their own opinions. They first formed to themselves a certain idea or scheme of Christianity; and to this adjusted the writings of the apostles, pretending that whatever was inconsistent with this had been foisted into the New Testament by later writers, who were half Jews. On the other hand, they made fables and apocryphal books pass for apostolical writings; and even are suspected to have forged several others, the better to maintain their errors. St Epiphanius gives a catalogue of several pieces published by Manes, and adds extracts out of some of them. These are the Mysteries, Chapters, Gospel, and Treasury.

The rule of life and manners which Manes prescribed to his followers was most extravagantly rigorous and severe. However, he divided his disciples into two classes; one of which comprehended the perfect Christians, under the name of the *elect*; and the other the imperfect and feeble, under the title of *auditors* or *hearers*. The elect were obliged to a rigorous and entire abstinence from flesh, eggs, milk, fish, wine, all intoxicating drink, wedlock, and all amorous gratifications; and to live in a state of the severest penury, nourishing their emaciated bodies with bread, herbs, pulse, and melons, and depriving themselves of all the comforts that arise from the moderate indulgence of natural passions, and also from a variety of innocent and agreeable pursuits. The auditors were allowed to possess houses, lands, and wealth, to feed on flesh, to enter into the bonds of conjugal tenderness; but this liberty was granted them with many limitations, and under the strictest conditions of moderation and temperance. The general assembly of the Manicheans was headed by a



Manichees  
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Manilla.

president, who represented Jesus Christ. There were joined to him 12 rulers or masters, who were designed to represent the 12 apostles, and these were followed by 72 bishops, the images of the 72 disciples of our Lord. These bishops had presbyters or deacons under them, and all the members of these religious orders were chosen out of the class of the elect. Their worship was simple and plain; and consisted of prayers, reading the scriptures, and hearing public discourses, at which both the auditors and elect were allowed to be present. They also observed the Christian appointment of baptism and the eucharist. They kept the Lord's day, observing it as a fast; and they likewise kept Easter and Pentecost.

Towards the 4th century, the Manicheans concealed themselves under various names, which they successively adopted, and changed in proportion as they were discovered by them. Thus they assumed the names of Encratites, Apotactics, Saccophori, Hydroparastates, Solitaries, and several others, under which they lay concealed for a certain time, but could not however long escape the vigilance of their enemies. About the close of the 6th century, this sect gained a very considerable influence, particularly among the Persians.

Toward the middle of the 12th century, the sect of Manichees took a new face, on occasion of one Constantine, an Armenian, and an adherer to it; who took upon him to suppress the reading of all other books besides the Evangelists and the Epistles of St Paul, which he explained in such a manner as to make them contain a new system of Manicheism. He entirely discarded all the writings of his predecessors; rejecting the chimeras of the Valentinians, and their 30 æons; the fable of Manes, with regard to the origin of rain, and other dreams; but still retained the impurities of Basilides. In this manner he reformed Manicheism, inasmuch that his followers made no scruple of anathematizing Scythian, Buddas, called also *Addas* and *Terebinth*, the contemporaries and disciples, as some say, and, according to others, the predecessors and masters of Manes, and even Manes himself; Constantine being now their great apostle. After he had seduced an infinite number of people, he was at last stoned by order of the emperor.

This sect prevailed in Bosnia and the adjacent provinces about the close of the 15th century; propagated their doctrines with confidence, and held their religious assemblies with impunity.

MANICORDON, or MANICHORD, a musical instrument in form of a spinet; the strings of which, like those of the clarichord, are covered with little pieces of cloth, to deaden as well as to soften their sound, whence it is also called the *dumb spinet*.

MANIFESTO; a public declaration made by a prince in writing, showing his intentions to begin a war or other enterprise, with the motives that induce him to it, and the reasons on which he founds his rights and pretensions.

MANIHOT, or MANIOC. See JATROPHA, BOTANY Index.

MANILLA, LUCONIA, or *Luzon*, the name of the largest of the Philippine islands in the East Indies, subject to Spain. It had the name of *Luzon* from a custom that prevailed among the natives of beating or bruising their rice in wooden mortars, before they ei-

ther boiled or baked it; *luzon* in their language, signifying "a mortar."

As to situation, it is remarkably happy, lying between the eastern and western continents, and having China on the north, at the distance of about 60 leagues; the islands of Japan on the north-east, at the distance of about 250 leagues from the nearest of them; the ocean on the east; the other islands on the south; and on the west Malacca, Patana, Siam, Cambodia, Cochinchina, and other provinces of India, the nearest at the distance of 300 leagues.

The middle of this island is in latitude 15° north; the east point in 13° 38', and the most northern point in 19°. The shape of it is said to resemble that of an arm bent; the whole length being about 160 Spanish leagues, the greatest breadth between 30 and 40, and the circumference about 350. As to the longitude the charts differ, some making the middle of the island to lie 113° east from London, and others 106°. The climate is hot and moist. One thing is held very extraordinary, that in stormy weather there is much lightning and rain, and that thunder is seldom heard till this is over. During the months of June, July, August, and part of September, the west and south winds blow, which they call *vendavales*, bringing such rains and storms, that the fields are all overflowed, and they are forced to have little boats to go from one place to another. From October till the middle of December, the north wind prevails; and from that time till May, the east and south-east; which winds are there called *breezes*. Thus there are two seasons in those seas, by the Portuguese called *monzeens*; whence our word *monsoons*, that is, the breezes half the year, with a serene dry air; and the *vendavales* the other half, wet and stormy. It is further to be observed, that in this climate no vermine breed upon Europeans, though they wear dirty shirts, whereas it is otherwise with the Indians. The days here being always of an equal length, and the weather never cold, neither their clothes, nor the hour of dining, supping, doing business, studying, or praying, are ever changed; nor is cloth worn, but only against the rain.

The air here being, as has been observed, very hot and moist, is not wholesome, but is worse for young men that come from Europe than for the old. As for the natives, without using many precautions, they live very commonly to fourscore or 100. The soil is so rich, that rice grows even on the tops of the mountains without being watered; and this makes it so plentiful, that the Indians value gold so little as not to pick it up, though it lies almost everywhere under their feet.

Among the disadvantages of the island, besides frequent and terrible earthquakes, here are several burning mountains. The face of the island, however, is far from being disfigured by them, or by the consequences of their explosions.

The mountaineers, called *Tingiani*, have no particular place of abode, but always live under the shelter of trees, which serve them instead of houses, and furnish them with food; and when the fruit is eaten up, they remove where there is a fresh sort.

Here are 40 different sorts of palm-trees, the most excellent cocoas, wild cinnamon, wild nutmegs, and some say wild cloves also; ebony; sandal wood; the

Manilla.

best.



Manilla.

best cassia, and in such plenty, that they feed their hogs with its fruit; all kinds of cattle, and prodigious quantities of gold, amber, and ambergris.

There are several sorts of people in this island besides the Spaniards, as the Tagalians or Tagaleze, the Pintadoes or painted negroes, the Ilayas or Tinglianos, and the Negrellos. The Tagalians, who are thought to be Malayans by descent, are a modest, tractable, and well-disposed people. The Pintadoes, or painted negroes, are tall, straight, strong, active, and of an excellent disposition. The Tinglianos, whom some suppose to be descended from the Japanese, are very brave, yet very courteous and humane. They live entirely on the gifts of nature; and never sleep under any other shade than that of the trees or a cave. The Negrellos, who are held to be the aborigines of the island, are barbarous and brutal to the last degree. When they kill a Spaniard, they make a cup of his skull, and drink out of it.

This island is divided into several provinces, containing divers towns, the chief of which are Manilla, Caceres, New Segovia, Bondo, Passacao, Ibalon, Bulaw, Serfocon or Bagatao, Lampon, Fernandina, Bolinao, Playahonda, Cavite, Mindora, Caleleya, and Balayan.

MANILLA, the capital of an island of the same name in the East Indies, on the south-east side of the island, where a large river falls into the sea, and forms a noble bay 30 leagues in compass, to which the Spaniards have given the name of *Bahia*, because the river runs out of the great lake Bahi, which lies at the distance of six leagues behind it. In compass it is two miles, in length one-third of a mile; the shape irregular, being narrow at both ends, and wide in the middle. On the south it is washed by the sea, and on the north and east by the river; being also strongly fortified with walls, bastions, forts, and batteries.—Manilla contains about 30,000 souls, who are a very motley race, distinguished by several strange names, and produced by the conjunction of Spaniards, Chinese, Malabars, Blacks, and others inhabiting the city and islands depending on it. Without the walls are large suburbs, particularly that inhabited by the Chinese merchants, called *Sangleys*. In proportion to the size of the place, the number of churches and religious houses is very great. Only small vessels can come up to Manilla; but three leagues south of it is the town and port of Cavite, defended by the castle of St Philip, and capable of receiving the largest ships. Here stands the arsenal where the galleons are built, for which there are from 300 to 600 or 800 men constantly employed, who are relieved every month, and while upon duty are maintained at the king's expence. By an earthquake which happened here in 1645, a third part of the city of Manilla was destroyed, and no less than 3000 people perished in the ruins.

Spain having entered into engagements with France, in consequence of the family-compact of the house of Bourbon, it was found expedient by Britain to declare war also against Spain. Whereupon a force was sent out from our East India settlements, particularly Madras, for the conquest of the Philippine islands, under General Draper and Admiral Cornish: who, after a siege of 12 days, took Manilla on the 6th of October

Manilla,  
Manilius.

1762 by storm; but to save so fine a city from destruction, agreed to accept a ransom, amounting to a million sterling, a part of which, it is said, was never paid. The Spanish viceroy resides in this city, and lives like a sovereign prince. The government is said to be one of the best in the gift of the king of Spain. When the city was taken, as above, the archbishop, who is a kind of pope in this part of the world, was also viceroy. Five large ships, loaded with the riches of the East, as diamonds from Golconda, cinnamon from Ceylon, pepper from Sumatra and Java, cloves and nutmegs from the Moluccas and Banda islands, camphire from Borneo, benjamin and ivory from Cambodia, silks, tea, and china-ware from China, &c. sail yearly from hence to Acapulco in Mexico, and return freighted with silver, making 400 per cent. profit.

The city of Manilla is governed by two alcaides: the rest of the cities and great towns have each an alcaide; and in every village there is a corregidore. Appeals from their sentences are made to the royal court at Manilla, in which there are four judges, and a fiscal or attorney-general; each of these judges has a salary of 3300 pieces of eight per annum. The viceroy is president; and in that quality has an income of 4000 pieces of eight, but he has no vote; yet if the judges are equally divided, the president names a doctor of the civil law, who, in virtue of his appointment, has a decisive vote. The attorney-general, in right of his office, is protector of the Chinese, in consideration of which he receives 600 pieces of eight every year. As for the Indians that are in subjection, they pay tribute in the following proportions: Young men from 18, and from thence, if they continue single, to the age of 60, pay five rials of plate by way of capitation; as single women likewise do from 24 to 50: married men pay ten rials. It is computed that there are within the compass of this government 250,000 Indians subject to his Catholic majesty, of whom two-fifths hold immediately from the king, and the rest from lords or proprietors, who pay two rials each for maintenance of the forces, and the like sum for the parish-priest. The royal revenue is computed at about half a million of pieces of eight, exclusive of casualties. In regard to the military establishment, the garrison of Manilla consists of about 800 or 1000 men, and there are about 3000 more in the Philippines. The viceroy is by his office captain-general, with a salary of about 4000 pieces of eight.

MANILIUS, MARCUS, a Latin poet, whose poem had the ill luck to lie buried in some German libraries, and was not heard of in the world, until Poggius, about two centuries ago, published him from some old manuscripts he found there. There is no account to be found of him but what can be drawn from his poem, which is called *Astronomicon*; and contains a system of the ancient astronomy and astrology, together with the philosophy of the Stoics. It consists of five books; though there was a sixth, which has not been recovered. From the style, and no mention of the author being found in ancient writers, it is probable he died young. It is collected, however, that he was a Roman of illustrious extraction, and lived under the reign of Augustus, whom he invokes, though not by name, yet by circumstances and character that suit no other emperor.



Manille  
||  
Manis.

emperor. The best editions of Manilius are, that of Joseph Scaliger, in 1600, and that of Bentley at London in 1738.

MANILLE, in commerce, a large brass ring in the form of a bracelet, either plain or engraven, flat or round.

Manilles are the principal commodities which the Europeans carry to the coast of Africa, and exchange with the natives for slaves. These people wear them as ornaments on the small of the leg, and on the thick part of the arm above the elbow. The great men wear manilles of gold and silver; but these are made in the country by the natives themselves.

MANIOC, or MANIHOT. See JATROPHA, BOTANY *Index*.

MANIPULUS, MANIPULE, among the Romans, was a little body of infantry, which in the time of Romulus consisted of 100 men; and in the time of the consuls, and first Cæsars, of 200.

The word properly signifies "a handful;" and, according to some authors, was first given to the handful of hay which they bore at the end of a pole, to distinguish themselves by, before the custom was introduced of bearing an eagle for their ensign; and hence also the phrase, *a handful of men*. But Vegetius, Modestus, and Varro, give other etymologies of the word: the last derives it from *manus*, a little body of men following the same standard. According to the former, this corps was called *manipulus*, because they fought hand in hand or all together: *Contubernium autem manipulus vocabatur ab eo, quod conjunctis manibus pariter dimicabant*.

Each manipule had two centurions, or captains, called *manipularii*, to command it; one whereof was lieutenant to the other. Each cohort was divided into three manipules, and each manipule into two centuries.

Aulus Gellius quotes an old author, one Cincius, who lived in the time of Hannibal (whose prisoner he was), and who, writing on the art of war, observes, that then each legion consisted of 60 centuries, of 30 manipules, and of ten cohorts. And again, Varro and Vegetius mention it as the least division in the army, only consisting of the tenth part of a century; and Spartian adds, that it contained no more than ten men. This shows that the manipulus was not always the same thing.

MANIPULUS is also an ecclesiastical ornament, worn by the priests, deacons, and subdeacons in the Romish church. It consists of a little fillet in form of a stole, three or four inches broad, and made of the same stuff with the chasuble; signifying and representing an handkerchief which the priests in the primitive church wore on the arm to wipe off the tears they were continually shedding for the sins of the people. There still remains a mark of this usage in a prayer rehearsed by those who wear it; *Merear, Domine, portare manipulum fletus et doloris*.—The Greeks and Maronites wear two manipules, one on each arm.

MANIPULUS, among physicians, is used to signify a handful of herbs or leaves, or so much as a man can grasp in his hand at once; which quantity is frequently denoted by the abbreviature, M, or m.

MANIS, the SCALY LIZARD, a genus of quadrupeds

belonging to the order of bruta. See MAMMALIA *Index*.

Manley,  
Manna.

MANLEY, MRS, the celebrated writer of the *Atalantis*, was the daughter of Sir Roger Manley, the reputed author of the first volume of the *Turkiss S. y.* She lost her parents very early; and after having been deluded into a false marriage by her guardian, who was her cousin, and afterwards deserted her, she was patronized by the duchess of Cleveland, mistress of Charles II. But the duchess, being a woman of a very fickle temper, grew tired of Mrs Manley in six months time; and discharged her upon a pretence, whether groundless or not is uncertain, that she intrigued with her son. After this she wrote her first tragedy, called *Royal Mischiefs*, which was acted with great applause in 1696; and her apartment being frequented by men of wit and gaiety, she soon engaged in amours, and was taken into keeping. Her pen now grew as licentious as her conduct: for, in her retired hours, she wrote four volumes, called *Memoirs of the New Atalantis*; in which she was not only very free in her wanton tales of love adventures, but satirized the characters of many distinguished personages, especially those who had a principal concern in the Revolution. A prosecution was commenced against her for this work; but whether those in power were ashamed to bring a woman to trial for a few amorous trifles; or whether the laws could not reach her disguised satire, she was discharged; and a total change of the ministry ensuing, Mrs Manley lived in high reputation and gaiety, amusing herself with the conversation of wits, and writing plays, poems, and letters. She died in 1724.

MANLIUS CAPITOLINUS, the renowned Roman consul and general, who saved the capitol when it was attacked by the Gauls in the night: he was alarmed by the cries of geese, which were ever after held sacred. But being afterwards accused of aspiring at the sovereignty, he was thrown from the Tarpeian rock. See GAUL and ROME.

MANLIUS *Torquatus*, a celebrated consul and Roman captain; had great wit, but a difficulty in expressing himself, which induced Manlius Imperiosus, his father, to keep him almost by force in the country. Pompey, tribune of the people, enraged at this instance of severity, formed a design of accusing Manlius the father before the judges; but *Torquatus* being informed of it, went to that tribune, and, with a poniard in his hand, made him swear, that he would not proceed in that accusation against him to whom he owed his life. At length *Torquatus* was made military tribune, and killed a soldier of the Gauls in single combat, from whom he took a gold chain that he wore about his neck. From this action he obtained the name of *Torquatus*. He was consul in the war against the Latins; when he ordered his own son to be beheaded for fighting contrary to his orders, though he had gained the victory. He conquered the enemies of the republic, and was several times made consul; but at last refused the consulship, saying, That it was no more possible for him to bear with the vices of the people, than it was for the people to bear with his severity.

MANNA, in the *Materia Medica*, the juice of certain



**Manna.** tain trees of the ash kind, either naturally concreted on the plants, or exsiccated and purified by art. See **MATERIA MEDICA Index.**

**MANNA**, is also a Scripture term, signifying a miraculous kind of food which fell from heaven for the support of the Israelites in their passage through the wilderness, being in form of coriander seeds, its colour like that of bdellium, and its taste like honey.

The Scripture gives to manna the name of the *bread of heaven*, and the *food of angels*, Psalm lxxviii. 25. whether it would insinuate to us, that the angels sent and prepared this food, or that angels themselves, if they had need of any food, could not have any that was more agreeable than manna was. The author of the Book of Wisdom says, xvi. 20, 21. that manna fo accommodated itself to every one's taste, that every one found it pleasing to him; and that it included every thing that was agreeable to the palate and fit for good nourishment; which expressions some have taken in the literal sense, though others understand them figuratively.

The critics are divided about the original of the word *manna*. Some think that *man* is put instead of the Hebrew word *mah*, which signifies "What is this?" and that the Hebrews, then first seeing that new food which God had sent them, cried to one another, מַה הִוא *man-hu*, instead of *mah-hu*, "What is this?" Others maintain, that the Hebrews very well knew before what manna was; and that, seeing it in great abundance about their camp, they said one to another, *Man-hu*, "This is manna." Mr Saumaise and some other moderns are of this last opinion. They imagine, that the manna which God sent the Israelites was nothing else but that fat and thick dew which still falls in Arabia, which presently condensed, and served for food to the people; that this is the same thing as the wild honey, mentioned Matth. iii. 4. wherewith John the Baptist was fed; and that the miracle of Moses did not consist in the production of any new substance, but in the exact and uniform manner in which the manna was dispensed by Providence for the maintenance of such a great multitude.

On the contrary, the Hebrews and Orientals believe, that the fall of the manna was wholly miraculous. The Arabians call it the *sugar-plums of the Almighty*; and the Jews are so jealous of this miracle, that they pronounce a curse against all such as presume to deny the interposition of a miraculous power.

Our translation, and some others, make Moses fall into a plain contradiction in relating this story of the manna, which they render thus: "And when the children of Israel saw it, they said one to another, It is manna; for they wist not what it was." Exodus xvi. 15: Whereas the Septuagint, and several authors both ancient and modern, have translated the text according to the original, "The Israelites seeing this, said one to another, What is this? for they knew not what it was." For we must observe, that the word by which they asked, *what is this?* was in their language *man*, which signifies likewise meat ready provided; and therefore it was always afterwards called *man* or *manna*.

Whether this manna had those extraordinary qualities in it or not, which some imagine, it must be allowed to be truly miraculous, upon the following ac-

counts. 1. That it fell but six days in the week. 2. That it fell in such a prodigious quantity, as sustained almost three millions of souls. 3. That there fell a double quantity every Friday, to serve them for the next day, which was their Sabbath. 4. That what was gathered on the first five days stunk and bred worms if kept above one day: but that which was gathered on Friday kept sweet for two days. And, lastly, That it continued falling while the Israelites abode in the wilderness, but ceased as soon as they came out of it and had got corn to eat in the land of Canaan.

**MANNA-Tree**, is a species of the ash, and a native of Calabria in Italy. See **FRAXINUS**, **BOTANY Index**, and **MATERIA MEDICA Index.**

**MANNER**, in painting, a habitude that a man acquires in the three principal parts of painting, the management of colours, lights, and shadows; which is either good or bad according as the painter has practised more or less after the truth, with judgement and study. But the best painter is he who has no manner at all. The good or bad choice he makes is called *goute*.

**MANNERS**, the plural noun, has various significations; as the general way of life, the morals, or the habits, of any person or people; also ceremonious behaviour, or studied civility. See the next article.

*Good MANNERS*, according to Swift, is the art of making those people easy with whom we converse.

Whoever makes the fewest persons uneasy, is the best bred in the company.

As the best law is founded upon reason, so are the best manners. And as some lawyers have introduced unreasonable things into common law; so likewise many teachers have introduced absurd things into common good manners.

One principal point of this art is to suit our behaviour to the three several degrees of men; our superiors, our equals, and those below us.

For instance, to press either of the two former to eat or drink is a breach of manners; but a tradesman or a farmer must be thus treated, or else it will be difficult to persuade them that they are welcome.

Pride, ill nature, and want of sense, are the three great sources of ill manners; without some one of these defects, no man will behave himself ill for want of experience; or of what, in the language of fools, is called *knowing the world*.

"I defy (proceeds our author), any one to assign an incident wherein reason will not direct us what we are to say or to do in company, if we are not misled by pride or ill nature. Therefore, I insist that good sense is the principal foundation of good manners; but because the former is a gift which very few among mankind are possessed of, therefore all the civilized nations of the world have agreed upon fixing some rules for common behaviour, best suited to their general customs, or fancies, as a kind of artificial good sense to supply the defects of reason. Without which, the gentlemanly part of dunces would be perpetually at cuffs, as they seldom fail when they happen to be drunk, or engaged in squabbles about women or play. And, God be thanked, there hardly happeneth a duel in a year, which may not be imputed to one of those three motives. Upon which account, I should be exceedingly sorry to find the legislature make any new laws

**Manna-Tree**  
||  
**Manners.**

against



Manners. against the practice of duelling; because the methods are easy, and many, for a wise man to avoid a quarrel with honour, or engage in it with innocence. And I can discover no political evil, in suffering bullies, sharpers, and rakes, to rid the world of each other by a method of their own, where the law hath not been able to find an expedient.

“As the common forms of good manners were intended for regulating the conduct of those who have weak understandings; so they have been corrupted by the persons for whose use they were contrived. For these people have fallen into a needless and endless way of multiplying ceremonies, which have been extremely troublesome to those who practise them, and insupportable to every body else; insomuch that wise men are often more uneasy at the over civility of these refiners, than they could possibly be in the conversations of peasants or mechanics.

“The impertinences of this ceremonial behaviour are nowhere better seen than at those tables, where ladies preside who value themselves upon account of their good breeding; where a man must reckon upon passing an hour without doing any one thing he hath a mind to, unless he will be so hardy as to break through all the settled decorum of the family. She determines what he loveth best, and how much he shall eat; and if the master of the house happeneth to be of the same disposition, he proceedeth in the same tyrannical manner to prescribe in the drinking part: at the same time you are under the necessity of answering a thousand apologies for your entertainment. And although a good deal of this humour is pretty well worn off among many people of the best fashion, yet too much of it still remaineth, especially in the country; where an honest gentleman assured me, that having been kept four days against his will at a friend's house, with all the circumstances of hiding his boots, locking up the stable, and other contrivances of the like nature, he could not remember, from the moment he came into the house to the moment he left it, any one thing wherein his inclination was not directly contradicted; as if the whole family had entered into a combination to torment him.

“But, besides all this, it would be endless to recount the many foolish and ridiculous accidents I have observed among these unfortunate profelytes to ceremony. I have seen a duchess fairly knocked down by the precipitancy of an officious coxcomb running to save her the trouble of opening a door. I remember, upon a birth-day at court, a great lady was rendered utterly disconsolate, by a dish of sauce let fall by a page directly upon her head-dress and brocade, while she gave a sudden turn to her elbow upon some point of ceremony with the person who sat next her. Monsieur Buys, the Dutch envoy, whose politics and manners were much of a size, brought a son with him about 13 years old to a great table at court. The boy and his father, whatever they put on their plates, they first offered round in order, to every person in the company; so that we could not get a minute's quiet during the whole dinner. At last their two plates happened to encounter, and with so much violence, that, being china, they broke in twenty pieces, and stained half the company with wet sweetmeats and cream.

“There is a pedantry in manners as in all arts and

Manners. sciences, and sometimes in trades. Pedantry is properly the overrating any kind of knowledge we pretend to. And if that kind of knowledge be a trifle in itself, the pedantry is the greater. For which reason I look upon fiddlers, dancing-masters, heralds, masters of the ceremony, &c. to be greater pedants than Lipsius, or the elder Scaliger. With these kind of pedants, the court, while I knew it, was always plentifully stocked: I mean from the gentleman-usher (at least) inclusive, downward to the gentleman-porter; who are, generally speaking, the most insignificant race of people that this island can afford, and with the smallest tincture of good manners, which is the only trade they profess. For being wholly illiterate, conversing chiefly with each other, they reduce the whole system of breeding within the forms and circles of their several offices: and as they are below the notice of ministers, they live and die in court under all revolutions, with great obsequiousness to those who are in any degree of credit or favour, and with rudeness and insolence to every body else. From whence I have long concluded, that good manners are not a plant of the court growth: for if they were, those people who have understandings directly of a level for such acquirements, and who have served such long apprenticeships to nothing else, would certainly have picked them up. For as to the great officers who attend the prince's person or councils, or preside in his family, they are a transient body, who have no better a title to good manners than their neighbours, nor will probably have recourse to gentlemen-ushers for instruction. So that I know little to be learned at court on this head, except in the material circumstance of dress; wherein the authority of the maids of honour must indeed be allowed to be almost equal to that of a favourite actress.

“I remember a passage my Lord Bolingbroke told me: That going to receive Prince Eugene of Savoy at his landing, in order to conduct him immediately to the queen, the prince said he was much concerned that he could not see her majesty that night; for Monsieur Hoffman (who was then by) had assured his highness, that he could not be admitted into her presence with a tied-up periwig; that his equipage was not arrived; and that he had endeavoured in vain to borrow a long one among all his valets and pages. My lord turned the matter to a jest, and brought the prince to her majesty: for which he was highly censured by the whole tribe of gentlemen ushers; among whom Monsieur Hoffman, an old dull resident of the emperor's, had picked up this material point of ceremony; and which, I believe, was the best lesson he had learned in 25 years residence.

“I make a difference between *good manners* and *good breeding*; although, in order to vary my expression, I am sometimes forced to confound them. By the first, I only understand the art of remembering, and applying, certain settled forms of general behaviour. But *good breeding* is of a much larger extent: for besides an uncommon degree of literature sufficient to qualify a gentleman for reading a play, or a political pamphlet, it taketh in a great compass of knowledge; no less than that of dancing, fighting, gaming, making the circle of Italy, riding the great horse, and speaking French; not to mention some other secondary or subaltern accomplishments, which are more easily



Manners,  
Mannory.

fly acquired. So that the difference between good breeding and good manners lieth in this, That the former cannot be attained to by the best understandings without study and labour; whereas a tolerable degree of reason will instruct us in every part of good manners without other assistance.

"I can think of nothing more useful upon this subject, than to point out some particulars wherein the very essentials of good manners are concerned, the neglect or perverting of which doth very much disturb the good commerce of the world, by introducing a traffic of a mutual uneasiness in most companies.

"First, A necessary part of good manners is a punctual observance of time at our own dwellings or those of others, or at third places; whether upon matters of civility, business, or diversion; which rule, though it be a plain dictate of common reason, yet the greatest minister \* I ever knew, was the greatest trespasser against it; by which all his business doubled upon him, and placed him in a continual arrear. Upon which I often used to rally him as deficient in point of good manners. I have known more than one ambassador, and secretary of state, with a very moderate portion of intellectuals, execute their offices with great success and applause, by the mere force of exactness and regularity. If you duly observe time for the service of another, it doubles the obligation; if upon your own account, it would be manifest folly, as well as ingratitude, to neglect it; if both are concerned, to make your equal or inferior attend on you to his own disadvantage, is pride and injustice.

"Ignorance of forms cannot properly be styled *ill manners*: because forms are subject to frequent changes; and consequently, being not founded upon reason, are beneath a wise man's regard. Besides, they vary in every country; and after a short period of time vary frequently in the same: so that a man who travelleth must needs be at first a stranger to them in every court through which he passeth; and, perhaps, at his return, as much a stranger in his own; and, after all, they are easier to be remembered or forgotten than faces or names.

"Indeed, among the many impertinencies that superficial young men bring with them from abroad, this bigotry of forms is one of the principal, and more predominant than the rest: who look upon them not only as if they were matters capable of admitting of choice, but even as points of importance; and therefore are zealous upon all occasions to introduce and propagate the new forms and fashions they have brought back with them: so that, usually speaking, the worst bred person in the company is a young traveller just arrived from abroad."

MANNORY, LEWIS, advocate of the parliament of Paris, where he was born in 1696, and died in 1777. From him we have 18 vols. 12mo of *Pleadings and Memoirs*. A great number of singular cases occur in this collection: and the author has the talent of rendering them more striking by the agreeable manner in which they are stated. He was Travenol's counsel in his process against Voltaire, and was very satirical against that poet. The latter took revenge by describing him as a mercenary babbler, who sold his pen and his abuse to the highest bidder. Whatever may be the case, Mannory would certainly have been more esteem-

ed, both as an advocate and as a writer, if he had paid more attention to his style, and had been less prolix; if he had thought more deeply, and been more sparing of his pleasantry in cases where nothing was required but knowledge and sound reasoning. He published also a translation into French of Father Paré's funeral Oration on Louis XIV. and very judicious Observations on the Semiramis of Voltaire.

MANOEUVRE, in a military sense, consists solely in distributing equal motion to every part of a body of troops, to enable the whole to form, or change their position, in the most expeditious and best method, to answer the purposes required of a battalion, brigade, or line of cavalry, artillery, or infantry. It has always been lamented, that men have been brought on service without being informed of the uses of the different manoeuvres they have been practising; and, having no ideas of any thing but the uniformity of the parade, instantly fall into disorder and confusion when they lose the step, or see a deviation from the straight lines they have been accustomed to at exercise. It is a pity to see so much attention given to show, and so little to instruct the troops in what may be of use to them in real service. No manoeuvre should be executed in presence of the enemy, unless protected by some division of the troops.

MANOMETER, or MANOSCOPE, an instrument to show or measure the alterations in the rarity or density of the air. The manometer differs from the barometer in this, That the latter only serves to measure the *weight* of the atmosphere, or of the column of air over it; but the former, the density of the air in which it is found; which density depends not only on the weight of the atmosphere, but also on the action of heat and cold, &c. Authors, however, generally confound the two together; and Mr Boyle himself gives us a very good manometer of his contrivance, under the name of a *statical barometer*, consisting of a bubble of thin glass, about the size of an orange, which, being counterpoised when the air was in a mean state of density, by means of a nice pair of scales, sunk when the atmosphere became lighter, and rose as it grew heavier.

Other kinds of manometers were made use of by Colonel Roy, in his attempts to correct the errors of the barometer. "They were (says he) of various lengths, from four to upwards of eight feet: they consisted of straight tubes, whose bores were commonly from  $\frac{1}{3}$ th to  $\frac{1}{5}$ th of an inch in diameter. The capacity of the tube was carefully measured, by making a column of quicksilver, about three or four inches in length, move along it from one end to the other. These spaces were severally marked, with a fine edged file, on the tubes; and transferred from them to long slips of pasteboard, for the subsequent construction of the scales respectively belonging to each. The bulb, attached to one end of the manometer at the glass-house, was of the form of a pear, whose point being occasionally opened, dry or moist air could be readily admitted, and the bulb sealed again, without any sensible alteration in its capacity.

"The air was confined by means of a column of quicksilver, long or short, and with the bulb downward or upwards, according to the nature of the proposed experiment. Here it must be observed, that, from

Manoeuvre,  
Manometer.

\* Harley  
earl of Ox-  
ford, lord  
high trea-  
surer to  
Queen  
Anne.



Манометр.

from the adhesion of the quicksilver to the tube, the instrument will not act truly, except it be in a vertical position; and even then it is necessary to give it a small degree of motion, to bring the quicksilver into its true place; where it will remain in equilibrio, between the exterior pressure of the atmosphere on one side, and the interior elastic force of the confined air on the other.

“ Pounded ice and water were used to fix a freezing point on the tube; and by means of salt and ice, the air was farther condensed, generally four, and sometimes five or six degrees below zero. The thermometer and manometer were then placed in a tin vessel among water, which was brought into violent ebullition; where, having remained a sufficient time, and motion being given to the manometer, a boiling point was marked thereon. After this the fire was removed, and the gradual descents of the piece of quicksilver, corresponding to every 20 degrees of temperature in the thermometer, were successively marked on a deal rod applied to the manometer. It is to be observed, that both instruments, while in the water, were in circumstances perfectly similar; that is to say, the ball and bulb were at the bottom of the vessel.

“ In order to be certain that no air had escaped by the side of the quicksilver during the operation, the manometer was frequently placed a second time in melting ice. If the barometer had not altered between the beginning and end of the experiment, the quicksilver always became stationary at or near the first mark. If any sudden change had taken place in the weight of the atmosphere during that interval, the same was noted, and allowance made for it in afterwards proportioning the spaces.

“ Long tubes, with bores truly cylindrical, or of any uniform figure, are scarcely ever met with. Such however as were used in these experiments, generally tapered in a pretty regular manner from one end to the other. When the bulb was downwards, and the tube narrowed that way, the column of quicksilver confining the air lengthened in the lower half of the scale, and augmented the pressure above the mean. In the upper half, the column being shortened, the pressure was diminished below the mean. In this case, the observed spaces both ways from the centre were diminished in the inverse ratio of the heights of the barometer at each space, compared with its mean height. If the bore widened towards the bulb when downwards, the observed spaces, each way from the centre, were augmented in the same inverse ratio; but in the experiments on air less dense than the atmosphere, the bulb being upwards, the same equation was applied with contrary signs: and if any extraordinary irregularity took place in the tube, the corresponding spaces were proportioned both ways from that point, whether high or low, that answered to the mean.

“ The observed and equated manometrical spaces being thus laid down on the pasteboard containing the measures of the tube; the 212° of the thermometer, in exact proportion to the sections of the bore, were constructed alongside of them: hence the coincidences with each other were easily seen; and the number of thermometrical degrees answering to each

manometrical space readily transferred into a table prepared for the purpose.\*”

MANOMETER, for the air pump. This is a small glass tube about two or three inches high, hermetically sealed at one end, and open at the other, being divided regularly into inches and lines. It is used for ascertaining the rarefaction of the air produced by working an air pump. The tube previously filled with mercury, is placed in the receiver of an air pump. As the piston is worked, the mercury gradually sinks in the tube, and the expansion is estimated by its height; for the smaller the height at which the mercury in the tube stands above the mercury in the basin, the greater is the expansion.

MANOR, MANERIUM (à *manendo*, because the usual residence of the owner), seems to have been a district of ground held by lords or great personages; who kept in their own hands so much land as was necessary for the use of their families, which were called *terræ dominicales*, or *demesne lands*; being occupied by the lord, as *dominus manerii*, and his servants. The other, or *tenemental lands*, they distributed among their tenants; which, from the different modes of tenure, were called and distinguished by two different names.—First, *book-land*, or charter land, which was held by deed under certain rents and free services, and in effect differed nothing from free socage lands: and from hence have arisen most of the freehold tenants who hold of particular manors, and owe suit and service to the same. The other species was called *folk-land*, which was held by no assurance in writing, but distributed among the common folk or people at the pleasure of the lord, and resumed at his discretion; being indeed land held in villenage. See VILLENAGE.

The residue of the manor, being uncultivated, was termed the *lord's waste*, and served for public roads, and for common of pasture to the lord and his tenants. Manors were formerly called *baronies*, as they still are *lordships*; and each lord or baron was empowered to hold a domestic court, called the *court baron*, for redressing misdemeanors and nuisances within the manor, and for settling disputes of property among the tenants. This court is an inseparable ingredient of every manor; and if the number of suitors should so fail, as not to leave sufficient to make a jury or homage, that is, two tenants at the least, the manor itself is lost.

In the early times of our legal constitution, the king's greater barons, who had a large extent of territory held under the crown, granted out frequently smaller manors to inferior persons to be held of themselves; which do therefore now continue to be held under a superior lord, who is called in such cases the *lord paramount* over all these manors; and his feignory is frequently termed an *honour*, not a *manor*; especially if it hath belonged to an ancient feudal baron, or hath been at any time in the hands of the crown. In imitation whereof, these inferior lords began to carve out and grant to others still more minute estates to be held as of themselves, and were so proceeding downwards *in infinitum*, till the superior lords observed, that, by this method of subinfeudation, they lost all their feudal profits of wardships, marriages, and escheats,



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cheats, which fell into the hands of these mesne or middle lords, who were the immediate superiors of the *terre tenant*, or him who occupied the land; and also that the mesne lords themselves were so impoverished thereby, that they were disabled from performing their services to their own superiors. This occasioned, first, that provision in the 33d chapter of *magna charta*, 9 Hen. III. (which is not to be found in the first chapter granted by that prince, nor in the great charter of King John), that no man should either give or sell his land without reserving sufficient to answer the demands of his lord; and, afterwards, the statute of Westm. 3. or *quia emptores*, 18 Edw. I. c. 1. which directs, that, upon all sales, or feoffments of land, the feoffee shall hold the same, not of his immediate feoffor, but of the chief lord of the fee, of whom such feoffor himself held it. But these provisions not extending to the king's own tenants *in capite*, the like law concerning them is declared by the statutes of *prærogativa regis*, 17 Edward II. c. 6. and of 34 Edw. III. c. 15. by which last all subinfeudations, previous to the reign of King Edward I. were confirmed; but all subsequent to that period were left open to the king's prerogative. And from hence it is clear, that all manors existing at this day, must have existed as early as King Edward the First: for it is essential to a manor, that there be tenants who hold of the lord; and, by the operation of these statutes, no tenant *in capite* since the accession of that prince, and no tenant of a common lord since the statute of *quia emptores*, could create any new tenant to hold of himself. See VILLENAGE.

MANS, an ancient, rich, and populous town of France, capital of the county of Maine, with a bishop's see. Its wax and stuffs are famous. It is seated on a high hill near the river Sarr, in E. Long. 0. 10. N. Lat. 47. 58.

MANSE, MANSUS, *Mansa*, or *Mansum*; in ancient law-books, denotes a *house*, or habitation, either with or without land. See HOUSE and MANSION: The word is formed *à manendo*, "abiding;" as being the place of dwelling or residence.

Capital MANSÉ, (*Mansum Capitale*), denotes the *manor-house*, or lord's court. See MANOR.

*Mansus Presbyteri*, is a parsonage or vicarage house for the incumbent to reside in. This was originally, and still remains, an essential part of the endowment of a parish church, together with the glebe and tythes. It is sometimes called *Presbyterium*. See PRESBYTERY.

MANSFELD, a city of Germany, and capital of a county of the same name, in the circle of Upper Saxony. E. Long. 12. 55. N. Lat. 51. 35.

MANSFELD, PETER ERNEST, COUNT OF, was descended from one of the most illustrious families in Germany, and which has produced the greatest number of distinguished characters. In 1552, he was taken prisoner at Ivry, where he commanded; and he was afterwards of great service to the Catholics at the battle of Montcontour. In consequence of his great talents, he was employed in affairs of the utmost delicacy and importance. Being made governor of Luxemburg, he maintained tranquillity in that province, while the rest of the Low Countries was a prey to the horrors of civil war. In testimony of their

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gratitude, the States caused the following inscription to be placed on the gate of the hotel de ville: *In Belgio omnia dum vastat civile bellum, MANSFELDUS bello et pace fidus, hanc provinciam in fide continet servatque illisam, cum summo populi consensu et hilari jucunditate.* He was afterwards appointed to the command of the Low Countries; and died at Luxemburg, March 21. 1604 at the age of 87, with the title of *Prince of the Holy Empire*. His mausoleum, in bronze, which is to be seen in the chapel bearing his name, and adjoining to the church of the Recollects at Luxemburg, is an admirable work. Four highly finished weepers, with which this monument was ornamented, were carried off by Louis XIV. when he took this city in 1684. To a love of war, Mansfeld united a taste for the sciences; and he was a lover and encourager of the arts: he possessed a great and elevated mind; but, like many heroes ancient and modern, he was greedy of gain and lavish of blood. Abbé Schannat has written the history of the count of Mansfeld in Latin; printed at Luxemburg, 1707. Charles prince of Mansfeld, his lawful son, signalized himself in the wars of Flanders and Hungary; and died without issue in 1595, after having beaten the Turks who attempted to relieve the city of Gran (Strigonia), which he was besieging.

MANSFELD, *Ernest de*, the illegitimate son of Peter Ernest by a lady of Malines, was educated at Brussels, in the principles of the Roman Catholic religion, by his godfather Ernest archduke of Austria. He was employed in the service of the king of Spain in the Low Countries, and in that of the emperor in Hungary, together with his brother Charles count of Mansfeld. He was legitimated on account of his bravery by the emperor Rodolphus II.; but his father's posts and possessions in the Spanish Netherlands having been refused him, contrary to promises which he had received, he, in 1610, joined the party of the Protestant princes. Being now become one of the most dangerous enemies of the house of Austria, who called him the *Attila of Christianity*, he set himself, in 1618, at the head of the rebels in Bohemia, and got possession of Pilsen in 1619. Though his troops were defeated in several battles, he was able to penetrate into the palatinate. He there took several places, ravaged Alsace, made himself master of Haguenau, and defeated the Bavarians. At length he was totally defeated by Wallstein, at the battle of Dassau, which happened in the month of April 1626. He gave over his remaining troops to the duke of Weimar, and intended to pass into the Venetian states; but fell sick in a village between Zaro and Spalatro, and there expired, A. D. 1626, aged 46. The procurator Nani thus describes him: "He was bold, intrepid in danger, and the most skilful negotiator of the age in which he lived. He possessed a natural eloquence, and well knew how to insinuate himself into the hearts of those whom he wished to gain. He was greedy of others wealth, and prodigal of his own.— He was full of vast projects and great hopes, and yet possessed neither lands nor money at his death." He did not wish to die in his bed; but dressed himself in his finest robes, put on his sword, sat up, leaning upon two domestics, and in this position, highly becoming a warrior, breathed his last. But of all the



Manfield actions of this great captain and singular man, the following is without doubt the most extraordinary: Having got the most certain information that Cazal, in whom of all his officers he placed the greatest confidence, had communicated his plans to the Austrian chief, he showed neither passion nor resentment at his treachery, but gave him 300 rix-dollars, and sent him to Count Buquoy, with a letter expressed in these words: "Cazal being attached to you and not to me, I find him to you, that you may have the benefit of his services." The opinions of men were divided about this action, and it was as much censured as applauded. Be this as it may, Ernest is deservedly esteemed one of the greatest generals of his age. There never was a leader more patient, more indefatigable, more inured to toil and hardship, to watchings, to colds and to hunger. He raised armies, and ravaged the enemy's territories with an incredible celerity. The Hollanders said of him, that he was *bonus in auxilio, carus in pretio*; that is, that he rendered great services to those who employed him, but that he made them pay well for it.

MANSFIELD, a town of Nottinghamshire, in England, seated in the forest of Sherwood, 140 miles from London. It was anciently a royal demesne. It has a market on Thursdays, and two fairs. By an ancient custom of this manor, the heirs were declared of age as soon as born. It is a well-built town, and has a great trade in malt. Its market is well stocked with corn, cattle, &c. Here is a charity school for 36 boys.

MANSIO, a term often mentioned in itineraries, denoting *inns* on the public roads to lodge in, at the distance of eighteen miles from each other; (Lactantius). Also, in the lower ages, it came to denote "an encampment for one night," (Lamprius).

MANSIO, or *Manfius*, was sometimes also used in the same sense with *hide*; that is, for as much land as one plough could till in a year. See *HIDE*.

MANSION, MANSTO, a dwelling house, or habitation, especially in the country. See *MANSE*.

MANSION is more particularly used for the lord's chief dwelling house within his fee; otherwise called the *capital messuage* or *manse*, or chief manor-place. See *MANOR*.

MANSLAUGHTER, the unlawful killing of another, without malice either express or implied: Which may be either voluntary, upon a sudden heat; or involuntarily, but in the commission of some unlawful act. These were called, in the Gothic constitutions, *homicidia vulgaria; que aut casu, aut etiam sponte committuntur, sed in subitaneo quodam iracundie calore et impetu*. And hence it follows, that in manslaughter there can be no accessories before the fact; because it must be done without premeditation.

1. As to the first, or voluntary branch: If upon a sudden quarrel two persons fight, and one of them kills the other, this is manslaughter: and so it is, if they upon such an occasion go out and fight in a field; for this is one continued act of passion; and the law pays that regard to human frailty, as not to put a hasty and deliberate act upon the same footing with regard to guilt. So also if a man be greatly provoked, as by pulling his nose, or other great indignity, and imme-

diately kills the aggressor; though this is not excusable *se defendendo*, since there is no absolute necessity for doing it to preserve himself; yet neither is it murder, for there is no previous malice; but it is manslaughter. But in this, and in every other case of homicide upon provocation; if there be a sufficient cooling time for passion to subside and reason to interpose, and the person so provoked afterwards kills the other, this is deliberate revenge, and not heat of blood; and accordingly amounts to murder. So if a man takes another in the act of adultery with his wife, and kills him directly upon the spot; though this was allowed by the law of Solon, as likewise by the Roman civil law (if the adulterer was found in the husband's own house), and also among the ancient Goths; yet in England it is not absolutely ranked in the class of justifiable homicide, as in case of a forcible rape, but it is manslaughter. It is, however, the lowest degree of it; and therefore in such a case the court directed the burning in the hand to be gently inflicted, because there could not be a greater provocation. Manslaughter, therefore, on a sudden provocation, differs from excusable homicide *se defendendo* in this: That in the one case there is apparent necessity, for self-preservation, to kill the aggressor; in the other no necessity at all, being only a sudden act of revenge.

2. The second branch, or involuntary manslaughter, differs also from homicide excusable by misadventure, in this: That misadventure always happens in consequence of a lawful act, but this species of manslaughter in consequence of an unlawful one. As if two persons play at sword and buckler, unless by the king's command, and one of them kills the other; this is manslaughter, because the original act was unlawful; but it is not murder, for the one had no intent to do the other any personal mischief. So where a person does an act, lawful in itself, but in an unlawful manner, and without due caution and circumspection; as when a workman flings down a stone or piece of timber into the street, and kills a man; this may be either misadventure, manslaughter, or murder according to the circumstances under which the original act was done. If it were in a country village, where few passengers are, and he calls out to all people to have a care, it is misadventure only: but if it were in London, or other populous towns, where people are continually passing, it is manslaughter, though he gives loud warning; and murder, if he knows of their passing and gives no warning at all, for then it is malice against all mankind. And, in general, when an involuntary killing happens in consequence of an unlawful act, it will be either murder or manslaughter according to the nature of the act which occasioned it. If it be in prosecution of a felonious intent, or in its consequences naturally tending to bloodshed, it will be murder; but if no more was intended than a mere civil trespass, it will only amount to manslaughter.

3. As to the punishment of this degree of homicide: The crime of manslaughter amounts to felony, but within the benefit of clergy; and the offender shall be burnt in the hand, and forfeit all his goods and chattels.

But there is one species of manslaughter, which is punished as murder, the benefit of clergy being taken away from it by statute; namely, the offence of mortally

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Mantichora.

tally stabbing another, though done upon sudden provocation. See STABBING.

**MANTA**, in *Ichthyology*; a flat fish mentioned by Ulloa and others, as exceedingly hurtful to the pearl-fishers, and which seems to be the same with that which Pliny has described under the name of *nubes* or *nebula*: *Ipsi ferunt (Urinatores) et nubem quandam crascescere super capita, planorum piscium similem, prementem eos, arcenemque à reciprocando, et ob stilos præacutos lineis annexos habere sese; quia nisi perfossa ita, non resedant caliginis et pavoris, ut arbitror, opere. Nubem enim sive nebulam (cujus nomine id malum appellunt) inter animalia haud ullam reperit quisquam.* (Plin. Hist. lib. ix. cap. 46.) The account given of this cloud by those divers is much the same with that which the divers in the American seas give of the manta; and the name of the cloud is perfectly applicable to it, as it really seems to be a cloud to those who are in the water below it: the swimmers likewise carry long knives, or sharp sticks, for the purpose of dispersing this animal. It is not improbable, that this fish has made its way into those seas from those of the old world, in the same manner as some others appear to have done. The strength of this fish is so great, that it will not only strangle a man whom it embraces or winds itself about, but it has even been seen to take the cable of an anchor and move it from the place where it had been cast. It has been called *manta*, because, when it lies stretched upon the sea, as it frequently does, it seems like a fleece of wool floating upon the water.

**MANTE**, a considerable town of France, capital of the Mantois, seated on the river Seine, in E. Long. 1. 45. N. Lat. 48. 58.

**MANTEGAR**, or **MAN-TIGER**, as it is sometimes written, is the tufted ape, a species of simia. See **MAMMALIA Index**.

**MANTEGNA**, **ANDREW**, was born in a village near Padua in 1451, and at first employed in keeping sheep. It was observed, that instead of watching over his flock, he amused himself with drawing; and he was placed with a painter who, being delighted with his ease and taste in work, and with his gentle and agreeable conduct in society, adopted him for his son, and made him his heir. At the age of 17, Mantegna was employed to paint the altar of St Sophia in Padua, and the four evangelists. James Bellini, who admired his talents, gave him his daughter in marriage. Mantegna painted, for the duke of Mantua, the *Triumph of Caesar*, which is the chief d'oeuvre of this painter, and has been engraved in claro-obscuro, in nine plates. From respect to his extraordinary merit, the duke made him knight of his order. The invention of engraving prints with the graver is commonly ascribed to Mantegna, who died at Mantua in 1517.

**MANTELETS**, in the art of war, a kind of moveable parapets, made of planks about three inches thick, nailed one over another, to the height of almost six feet, generally cased with tin, and set upon little wheels, so that in a siege they may be driven before the pioneers, and serve as blinds to shelter them from the enemy's small shot.

**MANTICHORA**, a name given by the Roman authors to a fierce and terrible creature, which they describe from the Greeks, who call it sometimes also *mantichora*, *martichora*, and *martiora*. We have form-

ed the name *man-tiger* on the sound of the Roman name, though expressing a very different sense; and our authors of the histories of animals, figure to us under this name a terrible creature, partly from the accounts of Pliny exaggerated, and partly from their own imagination, with three rows of teeth, and with such a shape as no animal ever possessed. See **MANTEGAR**.

**MANTINEA**, in *Ancient Geography*, a town situated in the south of Arcadia, on the confines of Laconia (Ptolemy;) called afterwards *Antigonea*, in honour of King Antigonus. It is memorable for a battle fought in its neighbourhood between the Thebans and Spartans, in which fell the celebrated commander Epaminondas. See **THEBES**.

**MANTIS**, a genus of insects belonging to the order of hemiptera. See **ENTOMOLOGY Index**.

**MANTLE**, or *MANTLE-Tree*, in *Architecture*, the lower part of the chimney, or that piece of timber which is laid across the jambs, and sustains the compartments of the chimney-piece.

**MANTLE**, or *Mantling*, in *Heraldry*, that appearance of folding of cloth, flourishing, or drapery, which in any achievement is drawn about a coat of arms. See **HERALDRY**, sect. v.

**MANTO**, in poetic history, the daughter of Tiresias, and like her father strongly inspired with prophecy. She was in so great esteem, that when the Argives pillaged Thebes, they thought they could not acquit their vow to Apollo, of consecrating to him the most precious thing in their plunder, without offering him this young woman. She was therefore sent to the temple of Delphi. But this did not engage her in any vow of continency; or, if it did, she observed it very ill: for she bore a son called *Amphilochus* to Alceon, who had been generalissimo of the army which took Thebes; and a daughter to the same, named *Tisiphone*. These children were the fruits of an amour carried on during the madness which had seized Alceon, after he had put his mother to death. Virgil transports her into Italy, nor for the sake of securing her virginity, but to produce a son of her who built Mantua.

**MANTUA**, anciently a town of the Transpadana in Italy, situated on the Mincio, a river running from the Lacus Benacus. It is said to have been founded about 300 years before Rome by Bianor or Oenus, the son of Manto; and was the ancient capital of Etruria. When Cremona, which had followed the interest of Brutus, was given to the soldiers of Octavius, Mantua also, which was in the neighbourhood, shared the common calamity, and many of the inhabitants were tyrannically deprived of their possessions. Virgil, who was among them, and a native of the town, applied for redress to Augustus, and obtained it by means of his poetical talents.

It is still called **MANTUA**, and is the capital of the duchy of that name. It is now a large place, having eight gates and about 16,000 inhabitants. The streets are broad and straight, and the houses well built. It is very strong by situation as well as by art; lying in the middle of a lake, or rather morass, formed by the river Mincio. There is no access to the city but by two causeways which cross this morass, and which are strongly fortified: so that the city is locked upon to

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Mantua.



be one of the most considerable fortresses of Europe; and the allies in 1745, though their army was in the duchy, durst not undertake the siege. It was greatly noted for its silk manufactures, which are now much decayed. The air in the summer time is very unwholesome. The celebrated poet Virgil was born at a village near this city. It was besieged by the French for above six months, in 1796, and surrendered to them on February 2d, 1797. On the recommencement of the war, it was attacked by the Austrian and Russian army, to which it surrendered on the 30th of July, 1799, after a short siege; and finally, not only this city, but the whole country, was subdued by the arms of Bonaparte, one of whose brothers is now styled king of Italy. E. Long. 10. 47. N. Lat. 45. 10.

MANTUA, the duchy of, a country of Italy, lying along the river Po, which divides it into two parts. It is bounded on the north by the Veronese; on the south by the duchies of Reggio, Modena, and Mirandola; on the east by the Ferrarese; and on the west by the Cremonese. It is about 50 miles in length, and 25 in breadth; is fruitful in corn, pastures, flax, fruits, and excellent wine. Charles IV. the last duke of Mantua, being a vassal of the empire, took part with the French in the dispute relating to the succession of Spain; for which reason he was put under the ban of the empire, and died at Venice in 1708. He having no heirs, the emperor kept the Mantuan in his own hands, and the duke of Savoy had Montserrat, which were confirmed to them by subsequent treaties. After the death of the emperor in 1740, his eldest daughter, now empress queen, kept possession of the Mantuan; and the governor of the Milanese had the administration of affairs. The Mantuan comprehends the duchies of Mantua, Guastalla, and Sabioneta; the principalities of Castiglione, Solforino, and Bofolo; likewise the county of Novellara. The principal rivers are the Po, the Oglio, and the Mincio; and the principal town is Mantua.

MANUAL, a word signifying any thing performed by the hand.

MANUAL (*manualis*), in *Law*, signifies what is employed or used by the hand, and whereof a present profit may be made; as such a thing in the manual occupation of one, is where it is actually used or employed by him.

MANUAL is the name of a service book used in the church of Rome, containing the rites, directions to the priests, and prayers used in the administration of baptism and other sacraments; the form of blessing holy water, and the whole service used in processions.

*MANUAL Exercise*, in the army, consists in the observance of certain words of command appointed for this purpose. When a regiment is drawn up, or paraded for exercise, the men are placed three deep, either by companies, or divided into platoons, with the grenadiers on the right. When soldiers are drawn up for exercise, the ranks and files should be exactly even; and each soldier should be instructed to carry his arms well, to keep his firelock steady and even upon his shoulder, with the right hand hanging down, and the whole body without constraint. The distances between the files must be equal, and the ranks eight feet distant from each other. Every motion should be performed with life, and the greatest exactness observed in all firings,

whelings, and marching; and therefore a regiment should never be under arms longer than two hours. Manual.

The following is an abstract of the words of command at the manual exercise, with their explanations.

1. *Poize your firelock*: i. e. Seize the firelock with your right hand, and turn the lock outwards, keeping the firelock perpendicular; then bring up the firelock with a quick motion from the shoulder, and seize it with the left hand, just above the lock, so that the fingers may lie upon the stock, with the elbows down, and the thumb upon the stock; the firelock must not be held too far from the body, and the left hand must be of an equal height with the eyes.
2. *Cock your firelock*: i. e. Turn the barrel opposite to your face, and place your thumb upon the cock, raising your elbow square at this motion; then cock your firelock, by drawing your elbow down, placing your right thumb on the breech pin, and the fingers under the guard.
3. *Present*: i. e. Step back about six inches to the rear with the right foot, bringing the left toe to the front; at the same time the butt-end of the firelock must be brought to an equal height with the shoulder, placing the left hand on the swell, and the fore finger of the right hand before the trigger, sinking the muzzle a little.
4. *Fire*: i. e. Pull the trigger briskly, and immediately after, bringing up the right foot to the inside of the left, come to the priming position, with the lock opposite to the right breast, the muzzle to the height of the hat, keeping it firm and steady; and at the same time seize the cock with the fore finger and thumb of the right hand, the back of the hand being turned up.
5. *Half-cock your firelock*: i. e. Half-bend the cock briskly with a draw-back of the right elbow, bringing it close to the butt of the firelock.
6. *Handle your cartridge*: i. e. Bring your right hand with a short round to your pouch, flapping it hard; seize the cartridge, and bring it with a quick motion to your mouth; bite the top well off, and bring the hand as low as the chin, with the elbow down.
7. *Prime*: i. e. Shake the powder into the pan, placing the three last fingers behind the rammer, with the elbow up.
8. *Shut your pan*: i. e. Shut your pan briskly, drawing your right arm at this motion towards your body, holding the cartridge fast in your hand as before; then turn the piece nimbly round to the loading position, with the lock to the front, and the muzzle to the height of the chin, bringing the right hand behind the muzzle, with both feet kept fast in this motion.
9. *Charge with cartridge*: i. e. Turn up your hand, and put the cartridge into the muzzle, shaking the powder into the barrel; place your hand, closed, with a quick and strong motion, upon the rammer.
10. *Draw your rammer*: i. e. Draw the rammer with a quick motion half out, seizing it at the muzzle back-handed; draw it quite out, turn it, and enter it into the muzzle.
11. *Ram down your charge*: i. e. Ram the cartridge well down in the barrel, instantly recovering and seizing the rammer back-handed at the centre, turning it, and entering it as far as the lower pipe, placing at the same time the edge of the hand on the butt end of the rammer, with fingers extended.
12. *Return your rammer*: i. e. Return the rammer, bringing up the piece with the left hand to the shoulder, seizing it with the right hand under



*Manual.* under the cock, keeping the left hand fast at the swell, turning the body square to the front. 13. *Shoulder your firelock*: i. e. Quit the left hand, and place it strong upon the butt; quit the right hand, and throw it down the right side. 14. *Rest your firelock*: i. e. Seize the firelock with the right hand, turning the lock outwards; raise the firelock from the shoulder, and place your left hand with a quick motion above the lock, holding the piece right up and down in both hands before you, and your left hand even with your eyes; step briskly back with your right foot, placing it a hand's breadth distance from your left heel, and at the same time bring down your firelock as quick as possible to the rest, sinking it as far down before your left hand as your right hand will permit without constraint; your left hand being at the feather-spring, and your right, with fingers extended, held under the guard, taking care to draw in the muzzle well towards your body, and to dress in a line with the butt-end. 15. *Order your firelock*: i. e. Place your firelock nimbly with your left hand against your right shoulder; quit the firelock with the right hand, sinking it at the same time with your left; seize it at the muzzle, which must be of an equal height with your chin, and hold it close against your right side; lift up your right foot, and place it by your left; at the same time throw back your left hand by your left side, and with your right bring down the butt-end strong upon the ground, placing it even with the toe of your right foot; the thumb of your right hand lying along the barrel, and the muzzle kept at a little distance from your body. 16. *Ground your firelock*: i. e. Half face to the right upon your heels, and at the same time turn the firelock, so that the lock may point to the rear, and the flat of the butt-end lie against the inside of your foot; at the same time slipping the right foot behind the butt of the firelock, the right toe pointing to the right, and the left to the front: step directly forward with your left foot, about as far as the swell of the firelock, and lay it upon the ground, your left hand hanging down by your left leg, and your right kept fast, with the butt end against it; raise yourself up again nimbly, bringing back your left foot to its former position, keeping your body faced to the right; face again to the left upon your heels, and come to your proper front, letting your hands hang down without motion. 17. *Take up your firelock*: i. e. Face to the right upon both heels; sink your body down, and come to the position described in the second motion of grounding; raise yourself and firelock, bringing it close to your right side; come to your proper front, seizing your firelock at the muzzle, as in explanation 15. 18. *Rest your firelock*: i. e. Bring your right hand as far as the swell; raise the firelock high up in a perpendicular line from the ground with your right hand, and seize it with your left above the spring, the cock being at the height of the waist-belt; step back with your right foot, placing it behind your left heel, and come to the rest. 19. *Shoulder your firelock*: i. e. Lift up your right foot, and place it by your left; bring the firelock at the same time to your left shoulder, and seize the butt-end with the left hand, keeping it in the same position as above described; throw your right hand briskly back. 20. *Secure your firelock*: i. e. Bring the right hand briskly up, and place it under the cock,

keeping the firelock steady in the same position; quit the butt with the left hand, and seize the firelock with it at the swell, bringing the elbow close down upon the lock; the right hand being kept fast in this motion, and the piece still upright; quit the right hand, and bring it down your right side, bringing the firelock nimbly down to the secure; the left hand in a line with the waist belt. 21. *Shoulder your firelock*: i. e. Bring the firelock up to a perpendicular line, seizing it with the right hand under the cock; quit the left hand, and place it strong upon the butt, quit the right hand, and bring it smartly down the right side. 22. *Fix your bayonet*: i. e. First and second motions, as in the two first of the secure; quit the right hand, and bring the firelock smartly down to the left side with the left hand, as far as it will admit without constraint, seizing the bayonet at the same time with the right hand, and fixing it, placing that hand just below the brass, with the piece kept close to the hollow of the shoulder. 23. *Shoulder your firelock*: i. e. Quit the right hand, and bring up the firelock with the left; seize it again under the cock with your right, as in the second motion of the secure; quit the left hand, and place it strong upon the butt; quit the right hand, and bring it down the right side. 24. *Present your arms*: i. e. as explained in the three motions of the 14th word of command. 25. *To the right face*: i. e. Bring up the firelock with a quick motion high before you, till your left hand comes even with your eyes, both the fingers of that hand extended along the stock, just above the feather-spring, the right foot to be brought close up to the left heel in this motion; face to the right, taking care in facing to hold the firelock right up and down, and steady in your hands; step back with your right foot, and come down to your *present*, as in the foregoing explanation. 26. *To the right face*: i. e. as in the foregoing explanation, facing to the right. 27. *To the right about face*: i. e. as in the 25th explanation, only coming to the right about instead of to the right. 28. *To the left face*: i. e. Bring the right foot briskly to the hollow of your left, with the firelock in the same position as in the first motion of *facing to the right*: face to the left; come down to the *present*, as before. 29. *To the left face*: i. e. as in the foregoing explanation. 30. *To the left about face*: i. e. as before, coming to the left-about instead of to the left. 31. *Shoulder your firelock*: i. e. as in the two motions of the 19th explanation. 32. *Charge your bayonets*: i. e. as in the first explanation: bring the swell of the firelock down strong upon the palm of the hand, grasping the piece at the small, behind the lock, and as high as the waist-belt; the firelock upon a level with the barrel upwards. 33. *Shoulder your firelock*: i. e. Bring up the firelock to the shoulder, place the left hand upon the butt, bringing the feet square to the front; quit the right hand, and throw it down the right side. 34. *Advance your arms*: i. e. first and second motions, as in the first explanation; bring the firelock down the right side, with the right hand as low as it will admit without constraint, slipping up the left hand at the same time to the swell, the guard between the thumb and forefinger of the right hand, the three last fingers under the cock, with the barrel to the rear; quit the left hand. 35. *Shoulder your firelock*: i. e. Bring up the left hand, and seize

*Manual.*



Manual.

it at the swell; come smartly up to the poize; shoulder. 36. *Prime and load*: i. e. Come smartly to the recover, by springing the firelock straight up with the left hand, turning the barrel inwards to the proper height of the recover: at the same time that the left hand springs the firelock, the right hand is raised briskly from the right side, and seizes the firelock across the breast: as it rises below the cock, the left hand comes with a quick motion from the butt, and seizes the firelock strong above the lock, the little finger of the left hand at the spring of the lock, the left hand at an equal height with the face, the butt close to the body, but not pressed, the firelock, perpendicular opposite the left side of the face: bring the firelock down with a brisk motion to the priming position, the left hand holding the firelock, as in priming; the thumb of the right hand placed against the face of the steel, the fingers clinched, and the elbow a little turned out, that the wrist may be clear of the cock: open the pan, by throwing up the steel with a strong motion of the right arm, turning the elbow in, and keeping the firelock steady in the left hand; handle your cartridge, prime, shut your pan, cast about, load, draw rammers, ram down the cartridge, return the rammers, shoulder. *N. B.* The motion of recover, and coming down to the priming position and opening pans, are to be done in the usual time. The motions of handling cartridge to shutting the pans, are to be done as quick as possible: when the pans are shut, a small pause is to be made, and then cast about together; then the loading motions are to be done as quick as possible; but before the rammer is returned, another small pause is to be made, counting 1, 2, between each motion, till the firelock is shouldered.—*Front rank make ready*: i. e. Spring the firelock briskly to the recover, keeping the left foot fast in this motion: as soon as the firelock is at the recover, without any stop, sink the body briskly without stooping forward, with a quick motion down upon the right knee; the butt-end of the firelock at the same time falls upon the ground, the front part of the butt being in a line with the heel of the left foot. As soon as the butt comes to the ground, the firelock is to be cocked, immediately seizing the cock and steel in the right hand; the firelock to be held firm in the left hand, about the middle of that part of the firelock between the lock and the swell of the stock; the point of the left thumb to be close to the swell, pointing upwards. As the body is sinking, the right knee is to be thrown as far back as the left leg may be right up and down; the right foot to be thrown a little to the right; the body to be kept straight; the head up, looking to the right along the rank, the same as if shouldered; the firelock to be upright, and the butt about four inches to the right of the inside of the left foot. *Present*: i. e. Bring the firelock briskly down to the *present*, by extending the left arm to the full length with a strong motion; at the same time spring up the butt by the cock with the right hand, and raise the butt so high

Manual.

upon the right shoulder, that you may not be obliged to stoop too much with the head; the right cheek to be close to the butt, and the left eye shut, and look along the barrel with the right eye from the breech-pin to the muzzle; kept the left elbow down in an easy position, and stand as steady as possible; the thumb of the right hand to remain in the position as described in the third explanation of the manual. *Fire*: i. e. Pull the trigger as directed in the manual; and as soon as the piece is fired, give yourself a strong spring upon your left leg, raising your body briskly, and straight up, keeping your left foot fast, and bringing the right heel to the inside of the left; at the same time the firelock is to be brought up to the priming position, and half-cocked immediately: a short pause is to be made; then handle cartridge, and go on with the loading motions described in the explanation of *prime and load*.—*Centre rank, make ready*: i. e. Spring the firelock briskly to the recover; so soon as the left hand seizes the firelock above the lock, the right elbow is to be nimbly raised a little, placing the thumb of that hand upon the cock; the fingers open by the plate of the lock, and as quick as possible force the piece to the cock, by dropping the elbow, and forcing down the cock with the thumb, stepping at the same time a moderate pace to the right, keeping the left foot fast; as the firelock is cocked, the thumb is to fall below the cock, the right hand seizing the firelock close under the cock firmly, the fore finger not to be before the trigger; the piece to be held in this position perpendicular, opposite the left side of the face, the butt close to the left breast, but not pressed; the body to be straight, and as full to the front as possible; the head kept up, looking to the right of the rank, that the body and the firelock may not stoop forward, nor lean much out of the rank. *Present*: i. e. Spring the firelock from the body to the arm's length with a quick motion, pressing down the muzzle with the left hand, and spring up the butt with the right hand, as in the foregoing explanation of the *front rank*. *Fire*: As in explanation 4, in the manual, with this difference, that the left foot is to be brought up to the right, at the same time that the firelock is brought down to the priming position. The loading motions as in the explanations of priming and loading; and at the last motion of shouldering, to spring to the left again, and cover the file-leaders.—*Rear rank, make ready*: i. e. Recover the firelock, and cock as before directed for the centre rank; as the firelock is recovered and cocked, step briskly straight to the right, with the right foot, a full pace; bring the left heel about six inches before the right foot; the body straight, and as square to the front as possible, as in the explanation of the *centre rank*. *Present*: As in explanation *present*, before. *Fire*: As in explanation of the *centre rank*; and as the firelock is coming down to the priming position, the left is to be brought back to the right; and at the last motion of shouldering, to spring to the left again, and cover the file-leader (A).

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(A) The manual exercise now described is not precisely the same that it is at present (1807). The difference indeed is not great; but depending partly on the peculiar views of commanding officers, it is so subject to change that it would be useless to detail it in its present form.



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There are some peculiar words of command at the manual exercise of the grenadiers, when apart from the battalion; and also for the cavalry and artillery.

**MANUDUCTOR**, a name given to an ancient officer in the church; who, from the middle of the choir, where he was placed, gave the signal for the choristers to sing, and marked the measure, beat time, and regulated the music. The Greeks called him *mesachoros*, because seated in the middle of the choir: but in the Latin church he was called *manuductor*; from *manus* and *duco*, "I lead;" because he led and guided the choir by the motions and gesture of the hand.

**MANUFACTURE**, a commodity produced from raw or natural materials, either by the work of the hand or by machinery.

**MANUFACTURER**, one who works up a natural product into an artificial commodity.

**MANUMISSION**, an act whereby a slave or villain is set at liberty, or let out of bondage. The word comes from the Latin *manus* "hand;" and *mittere*, "to send; *quia servus mittebatur extra manum seu potestatem domini sui*. Some authors define manumission an act by which a lord enfranchises his tenants, who till that time had been his vassals, and in a state of slavery inconsistent with the sanctity of the Christian faith.

Among the Romans, the manumission of slaves was performed three several ways. 1. When, with his master's consent, a slave had his name entered in the census or public register of the citizens. 2. When the slave was led before the prætor, and that magistrate laid his wand called *vindicta* on his head. 3. When the master gave the slave his freedom by his testament. Servius Tullius is said to have set on foot the first manner; and P. Valerius Publicola the second. A particular account is given of the third in the Institutes of Justinian. It was not necessary that the prætor should be on his tribunal to perform the ceremony of manumission: he did it anywhere indifferently, in his house, in the street, in going to bathe, &c. He laid the rod on the slave's head, pronouncing these words, *Dico eum liberum esse more Quiritum*, "I declare him a freeman, after the manner of the Romans." This done, he gave the rod to the listor, who struck the slave with it on the head, and afterwards with his hand on his face and back; and the notary or scribe entered the name of the new freedman in the register, with the reasons of his manumission. The slave had likewise his head shaved, and a cap given him by his master as a token of freedom. Tertullian adds, that he had then also a third name given him: if this were so, three names were not a token of nobility, but of freedom. The emperor Constantine ordered the manumissions at Rome to be performed in the churches.

Of manumission there have also been various forms in England. In the time of the Conqueror, villains were manumitted, by the master's delivering them by the right hand to the viscount, in full court, showing them the door, giving them a lance and a sword, and proclaiming them free. Others were manumitted by charter. There was also an implicit manumission: as when the lord made an obligation for payment of

money to the bondman at a certain day, or sued him where he might enter without suit, and the like.

**MANURE**, any thing used for fattening and improving land. See *AGRICULTURE Index*.

**MANUSCRIPT**, a book or paper written with the hand; by which it stands opposed to a printed book or paper. A manuscript is usually denoted by the two letters MS. and in the plural by MSS. What makes public libraries valuable, is the number of ancient manuscripts deposited in them; see *ALEXANDRIAN*, *CAMBRIDGE*, *CLERMONT*, *COTTONIAN*, *HARLEIAN*, *VATICAN*, &c.

**MANUTIUS**, *ALDUS*, the first of those celebrated Venetian printers who were as illustrious for their learning as for uncommon skill in their profession. He was born at Bassano in Italy about the middle of the 15th century; and hence is sometimes called *Bassianus*, though generally better known by the name of *Aldus*. He was the first who printed Greek neatly and correctly; and acquired so much reputation by it, that whatever was finely printed was proverbially said to have "come from the press of Aldus." We have a kind of Greek grammar of his; with Notes upon Homer, Horace, &c. He died at Venice, where he exercised his profession, in 1516.

**MANUTIUS**, *Paulus*, son of the former, was brought up to his father's profession. He was more learned than he; and he acquired, by continual reading of Tully, such a purity in writing Latin, as even Scaliger allows a Roman could not exceed. Pope Pius IV. placed him at the head of the apostolical press, and gave him the charge of the Vatican library. His Epistles are infinitely laboured, and very correct; but, as may be said of most of the Ciceronians, they contain scarcely any thing but mere words. This constant reading of Tully, however, together with his profound knowledge of antiquity, qualified him extremely well for an editor of Tully; whose works he accordingly published, with Commentaries on them, in 4 vols folio, at Venice in 1523. He died in 1574.

**MANUTIUS**, *Aldus*, the Younger, the son of Paulus, and the grandson of Aldus, was esteemed one of the greatest geniuses and most learned men of his time. Clement VIII. gave him the direction of the Vatican printing house: but probably the profits of that place were very small, since Manutius was obliged, for his subsistence, to accept of a professor of rhetoric's chair, and to sell the excellent library that was in his family, which his father, his uncle, and his great-uncle, had collected with extraordinary care, and which it is said contained 80,000 volumes. He died at Rome in 1597, without any other recompense than the praises due to his merit. He wrote, 1. Commentaries on Cicero. 2. A Treatise on Orthography. 3. Three books of Epistles; and other works in Latin and Italian, which are esteemed.

**MAON**, in *Ancient Geography*, a town of the tribe of Judah, to the south east, towards the Dead Sea. It gave name to the *wilderness of Maon*, 1 Sam. xxii.

**MAOUNA**, one of the Navigator's islands in the south Pacific ocean. Here M. de la Perouse, commander of the French ships the *Bouffole* and *Astrolabe*, met with his first fatal accident in 1787; M. de Langle, captain of the *Astrolabe*, with 11 officers and sailors,

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Map  
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sailors, were massacred by the natives. W. Long. 169. S. Lat. 14. 19.

MAP, a plane figure, representing the surface of the earth, or a part thereof, according to the laws of perspective. See GEOGRAPHY *Index*.

MAPLE. See *AGER*, *BOTANY Index*.

MAPLE-Sugar. See *SUGAR*, *CHEMISTRY Index*.

MAPPA, in the public games of the Roman circus, was a napkin hung out at the prætor's or other great magistrate's seat, as a signal for the race or other diversions to begin. The mappa was received by the mapparius, or person who held it, from the consul, prætor, or other great officer. Notice was anciently given by sound of trumpet; but Nero is said to have introduced the mappa, by throwing his napkin out of the window to satisfy the people, who grew noisy at the delay of the sports while he was at dinner.

MAPPARIUS, in Roman antiquity, the officer who gave the signal to the gladiators to begin fighting; which he did by throwing an handkerchief that he had received from the emperor or other magistrate.

MARACANDA, in *Ancient Geography*, capital of the Sogdiana. Now thought to be *Samarcand*, a city of Ubec Tartary in Asia, the country and royal residence of Tamerlane. See *SAMARCAND*.

MARACAYBO, a rich and considerable town of South America, and capital of the province of Venezuela, seated near a lake of the same name. It carries on a great trade in skins and chocolate, which is the best in America; and they have likewise very fine tobacco. It was taken by the French bucaniers in 1666 and 1678. W. Long. 70. 45. N. Lat. 10. 0.

MARACAYBO, a lake in South America, 200 miles long and 100 broad, which discharges itself by a river into the North sea. It is well defended by strong forts; which, however, did not hinder Sir Henry Morgan, a bucanier, from entering it, and plundering several Spanish towns on the coast, after defeating a squadron sent out against him.

MARAGNAN, a province of Brazil in South America, which comprehends a fertile populous island, 112 miles in circumference. The French settled here in 1612, and built a town; but they were soon driven from thence by the Portuguese, who have possessed it ever since. The town is little, but strong; and has a castle, a harbour, and a bishop's see. The climate is very agreeable and wholesome, and the soil produces plenty of all the necessaries of life. W. Long. 54. 35. S. Lat. 2. 0.

MARALDI, JAMES-PHILIP, a learned mathematician and astronomer, of the Academy of Sciences at Paris, was born in 1665. He was the son of Francis Maraldi and Angela Catharine Cassini, the sister of the famous astronomer of that name. His uncle made him go to France in 1687, where he acquired great reputation on account of his learning and observations. He made a catalogue of the fixed stars, which is more particular and exact than Bayer's; and has given a great number of curious and interesting observations in the memoirs of the academy; in particular, those on bees and petrifications have been universally applauded. He died in 1729.

MARANA, JOHN-PAUL, an ingenious writer of the 17th century, was of a distinguished family, and

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Marathon.

born at Genoa; where he received an education suitable to his birth, and made a great progress in the study of polite literature and the sciences. Having been engaged in the conspiracy of Raphael della Terra, to deliver up Genoa to the duke of Savoy, he was in 1670, when 28 years of age, imprisoned in the tower of that city, and remained there four years. Being at length set at liberty, he was ordered to write the history of that conspiracy; but, when finished, it was seized and prevented from being published. When the republic of Genoa was at variance with the court of France, Marana, who had always an inclination for that court, was afraid of being imprisoned a second time; and retired to Monaco, where he again wrote the history of the conspiracy in Italian; and, in 1682, went to Lyons to get it printed. From Lyons he went to Paris, where his merit soon acquired him powerful protectors. He spent the rest of his life in a happy and tranquil mediocrity, devoted to study and the society of men of learning; and died in 1693. His history of the conspiracy contains many curious and interesting anecdotes, which are nowhere else to be found. He also wrote several other works; the most known of which is the *Turkish Spy*, in 6 vols 12mo, which was in 1742 augmented to seven. Of this ingenious work we have an excellent English translation.

MARANO, a town of Italy, in the territory of Venice and province of Friuli, with a strong citadel; seated in a marsh at the bottom of the gulf of Venice, which renders it difficult of access.

MARANS, a rich town of France, in the territory of Aunis and diocese of Rochelle, seated among salt marshes, near the river Sevre, three miles from the sea. It carries on a very great trade in corn; and is seated in W. Long. 0. 55. N. Lat. 46. 20.

MARANTA, INDIAN ARROW-ROOT, a genus of plants belonging to the monandria class; and in the natural method ranking under the eighth order *Scitamineæ*. See *BOTANY Index*.

MARASMUS, among physicians, denotes an atrophy or consumption in its last and most deplorable stage.

MARATHON, in *Ancient Geography*, one of the demi or hamlets of Attica; about 10 miles to the north-east of Athens, towards Bœotia, near the sea. It still retains its ancient name (Dr Chandler informs us); but is very inconsiderable, consisting only of a few houses and gardens. The plain of Marathon, famous for Miltiades's victory over the Persians, by which the liberties of Athens and other cities of Greece were saved, is long and narrow, but consisting chiefly of level ground, and therefore admitting the operations of cavalry, which formed the main strength of the barbarian army, and with which the Greeks were very poorly provided. Here the Persians, under the command of Datis, pitched their camp, by the advice of Hippis the banished king of Athens, whose solicitations and intrigues had promoted the expedition, and whose perfect knowledge of the country, and intimate acquaintance with the affairs of Greece, rendered his opinion on all occasions respectable. The Persian army is said to have consisted of 100,000 infantry, and 10,000 horse.—Athens was in the utmost consternation and dismay. She had, upon the first



*Marathon.* first appearance of the Persian fleet, sent to implore assistance from the other nations of Greece: but some had submitted to Darius, and others trembled at the very name of the Medes and Persians. The Lacedæmonians alone promised troops; but various obstacles did not allow them immediately to form a junction with those of Athens. This city therefore could only rely on its own strength; and happily at this moment there appeared three men destined to give new energy to the state. These were Miltiades, Aristides, and Themistocles; whose example and harangues kindled the flame of the noblest heroism in the minds of the Athenians. Levies were immediately made. Each of the ten tribes furnished 1000 foot soldiers with a commander at their head. To complete this number it was necessary to enrol the slaves (A). No sooner were the troops assembled than they marched out of the city into the plain of Marathon, where the inhabitants of Plataea in Bœotia sent them a reinforcement of 1000 infantry.

Scarcely were the two armies in sight of each other, before Miltiades proposed to attack the enemy. Aristides and several of the commanders warmly supported this measure: but the rest, terrified at the excessive disproportion of the armies, were desirous of waiting for the succours from Lacedæmon. Opinions being divided, they had recourse to that of the polemarch, or chief of the militia, who was consulted on such occasions, to put an end to the equality of suffrages. Miltiades addressed himself to him, with the ardour of a man deeply impressed with the importance of present circumstances: "Athens (said he to him) is on the point of experiencing the greatest of vicissitudes. Ready to become the first power of Greece, or the theatre of the tyranny and fury of Hippias, from you alone, Callimachus, she now awaits her destiny. If we suffer the ardour of the troops to cool, they will shamefully bow beneath the Persian yoke; but if we lead them on to battle, the gods and victory will favour us. A word from your mouth must now precipitate your country into slavery or preserve her liberty." Callimachus gave his suffrage, and the battle was resolved. To ensure success, Aristides, and the other generals after his example, yielded to Miltiades the honour of the command which belonged to them in rotation: but, to secure them from every hazard, he preferred waiting for the day which of right placed him at the head of the army.

When that day arrived, Miltiades drew up his troops at the foot of a mountain, on a spot of ground scattered over with trees to impede the Persian cavalry. The Plataeans were placed on the left wing; Callimachus commanded the right; Aristides and Themistocles were in the centre of the battle, and Miltiades everywhere. An interval of nearly a mile separated the Grecian army from that of the Persians. At the first signal the Greeks advanced over this space running. The Persians, astonished at a mode of attack so novel to both nations, for a moment remained

*Marathon.* motionless; but to the impetuous fury of the enemy they soon opposed a more sedate and not less formidable fury. After an obstinate conflict of some hours, victory began to declare herself in the two wings of the Grecian army. The right dispersed the enemy in the plain, while the left drove them back on a morass that had the appearance of a meadow, in which they stuck fast and were lost. Both these bodies of troops now flew to the succour of Aristides and Themistocles, ready to give way before the flower of the Persian troops placed by Datis in the centre of his battle. From this moment the rout became general. The Persians, repulsed on all sides, found their only asylum in the fleet which had approached the shore. The conquerors pursued them with fire and sword, and took, burnt, or sunk the greater part of their vessels: the rest escaped by dint of rowing.

The Persian army lost about 6400 men: that of the Athenians 192. Miltiades was wounded; Hippias was left dead on the field, as were Stefileus and Callimachus, two of the Athenian generals. Scarcely was the battle over, when a soldier, worn out with fatigue forms the project of carrying the first news of so signal a success to the magistrates of Athens, and without quitting his arms, he runs, flies, arrives, announces the victory, and falls dead at their feet.

This battle was fought on the 6th of Boedromion, in the third year of the 72d Olympiad (or 29th September anno 490 B. C.) The next day 2000 Spartans arrived. In three days and nights they had marched 1200 stadia. Though informed of the defeat of the Persians, they continued their march to Marathon, nor did they enviously shun to behold those fields where a rival nation had signalized itself by so heroic an action: they there beheld the tents of the Persians still standing, the plain strewed over with dead, and covered with costly spoils: they there found Aristides, who with his tribe was guarding the prisoners and booty; and did not retire until they had bestowed just applauses on the victors.

The Athenians neglected nothing to eternize the memory of those who fell in the battle. It had been usual to inter the citizens who perished in war at the public expence, in the Ceramicus without the city; but the death of these was deemed uncommonly meritorious. They were buried, and a barrow was made for them, where their bravery had been manifested. Their names were engraven on half columns erected on the plain of Marathon. These monuments, not excepting those of the generals Callimachus and Stefileus, were in a style of the greatest simplicity. In the intervals between them were erected trophies bearing the arms of the Persians. An artist of eminence had painted all the circumstances of the battle in one of the most frequented porticoes of the city: Miltiades was there represented at the head of the generals, and in the act of exhorting the troops to fight for their country.

Pausanias examined the field of battle about 600  
4 D years

(A) *Travels of Anacharsis*; authority, *Pausan.* i. 79. But Dr Gillies seems to think that the armed slaves were not included in the 10,000; but amounted of themselves to a greater number, and which formed the centre of the battle.



Maratti,  
Maratti.

years after this event. His account of it is as follows: "The barrow of the Athenians is in the plain, and on it are pillars containing the names of the dead under those of the tribes to which they belonged; and there is another for the Plataeans and slaves; and a distinct monument of Miltiades the commander, who survived this exploit. There may be perceived nightly the neighing of horses and the clashing of arms. No person has derived any good from waiting on purpose to behold the spectres; but their anger does not fall on any one who happens to see them without design. The Marathonians worship those who were slain in the battle, styling them *heroes*.—A trophy also of white marble has been erected. The Athenians say the Medes were buried, religion requiring that the corpse of a man be covered with earth; though I was not able to find any place of sepulture, for there is no barrow or other sign visible; but they threw them promiscuously into a pit.—Above the lake are the marble mangers of the horses of Artaphernes, with marks of a tent on the rocks."

Many centuries have elapsed since the age of Pausanias; but the principal barrow, it is likely that of the gallant Athenians, still towers above the level of the plain. It is of light fine earth, and has a bush or two growing on it. Dr Chandler informs us, that he enjoyed a pleasing and satisfactory view from the summit; and looked, but in vain, for the pillars on which the names were recorded, lamenting that such memorials should ever be removed. At a small distance northward is a square basement of white marble, perhaps part of the trophy. A Greek church has stood near it; and some stones and rubbish, disposed so as to form an open place of worship, remain.

MARATTA. See MARHATTAS.

MARATTI, CARLO, a celebrated painter, was born at Camorano, near Ancona, in 1625. He came a poor boy to Rome, when only 11 years old; and at 12 recommended himself so effectually to Andrea Sacchi, by his drawings after Raphael in the Vatican, that he took him into his school, where he continued 25 years till his master's death. His graceful and beautiful ideas occasioned his being generally employed in painting madonas and female saints. No man ever performed in a better style, or with a greater elegance. From the finest statues and pictures, he made himself master of the most perfect forms, and the most charming airs of heads, which he sketched with equal ease and grace. He has produced a noble variety of draperies, more artfully managed, more richly ornamented, and with greater propriety, than even the best of the moderns. He was inimitable in adorning the heads, in the disposal of the hair, and the elegance of his hands and feet, which are equal to those of Raphael; and he particularly excelled in gracefulness. In his younger days he etched a few prints, as well of his own invention as after others, with equal spirit and correctness. It would be endless to recount the celebrated paintings done by this great man. Yet he executed nothing slightly, often changed his designs, and almost always for the better, whence his pictures were long in hand. By the example of his master, he made several admirable portraits of popes, cardinals, and other people of distinction, from whom he received the highest testimonies of esteem, as he likewise did from

almost all the monarchs and princes of Europe. Innocent XI. appointed him keeper of the paintings in his chapel and the Vatican. Maratti erected two noble monuments for Raphael and A. Caracci, at his own expense, in the Pantheon. How well he maintained the dignity of his profession, appears by his answer to a Roman prince, who complaining of the excessive price of his pictures, he told him there was a vast debt due from the world to the famous artists his predecessors, and that he, as their rightful successor, was come to claim those arrears. His abilities in painting were accompanied with many virtues, and particularly with an extensive charity. This great painter did at Rome in 1713, in the 88th year of his age.

MARAUDING, in a military sense, means a party of soldiers, who, without any order, go into the neighbouring houses and villages, when the army is either in camp or garrison, to plunder and destroy, &c. Marauders are a disgrace to the camp, to the military profession, and deserve no better quarter from their officers than they give to poor peasants, &c.

MARAVEDI, a little Spanish copper coin, worth somewhat more than a French denier, or half a farthing English.

The Spaniards always count by maravedis, both in commerce and in their finances, though the coin itself is no longer current among them. Sixty-three maravedis are equivalent to a rial of silver; so that the piaster, or piece of eight rials, contains 504; and the pistole of four pieces of eight, 2016 maravedis.

This smallness of the coin produces vast numbers in the Spanish accounts and calculations; inasmuch that a stranger correspondent would think himself indebted several millions for a commodity that cost but a few pounds.

In the laws of Spain, we meet with several kinds of maravedis; Alphonine maravedis, white maravedis, maravedis of good money, maravedis Combrenos, black maravedis, and old maravedis. When we find maravedis alone, and without any addition, it is to be understood of those mentioned above. The rest are different in value, fineness of metal, time, &c. Mariana asserts, that this coin is older than the Moors; that it came from the Goths; that it was anciently equal to a third part of the rial, and consequently of 12 times the value of the present maravedi. Under Alphonus XI. the maravedi was 17 times, under Henry II. ten times, under Henry III. five times, and under John II. two times and a half, the value of the present maravedi.

MARBELLA, a town of Andalusia in Spain, situated at the mouth of the Rio Verde, 30 miles north-east of Gibraltar, and 28 south-west of Malaga. W. Long. 5. 25. N. 30. 25.

MARBLE, a calcareous stone, of which there are many beautiful varieties. The word comes from the French *marbre*, and from the Latin *marmor*, of the Greek *μαρμαριον* to "shine or glitter." See MINERALOGY Index.

Artificial MARBLES. The stucco, of which statues, busts, basso-relievos, and other ornaments of architecture are made, ought to be marble pulverized, mixed in a certain proportion with plaster; the whole well sifted, worked up with water, and used like common plaster. See STUCCO.

There is also a kind of artificial marble made of the flaky felenites, or a transparent stone resembling plaster; which

Inno-  
Marauding  
Marble.



**Marble.** which becomes very hard, receives a tolerable polish, and may deceive a good eye. This kind of selenite resembles Muscovy talc.

There is another sort of artificial marble formed by corrosive tinctures, which, penetrating into white marble to the depth of a line or more, imitate the various colours of other dearer marbles.

There is also a preparation of brimstone in imitation of marble.

To do this, you must provide yourself with a flat and smooth piece of marble: on this make a border or wall, to encompass either a square or oval table, which may be done either with wax or clay. Then having several sorts of colours, as white lead, vermilion, lake, orpiment, masticot, smalt, Prussian blue, &c.; melt on a slow fire some brimstone in several glazed pipkins; put one particular sort of colour into each, and stir it well together; then having before oiled the marble all over within the wall, with one colour quickly drop spots upon it of larger and less size; after this, take another colour and do as before, and so on till the stone is covered with spots of all the colours you design to use. When this is done, you are next to consider what colour the mass or ground of your table is to be; if of a gray colour, then take fine sifted ashes, and mix it up with melted brimstone; or if red, with English red ochre; if white, with white lead; if black, with lamp or ivory black. Your brimstone for the ground must be pretty hot, that the colour dropt on the stone may unite and incorporate with it. When the ground is poured even all over, you are next, if judged necessary, to put a thin wainscot board upon it: this must be done while the brimstone is hot, making also the board hot, which ought to be thoroughly dry, in order to cause the brimstone to stick the better to it. When the whole is cold, take it up, and polish it with a cloth and oil, and it will look very beautiful.

*Elastic MARBLE*, an extraordinary species of fossil which has surpris'd all the naturalists who have seen it. There are several tables of it preserved in the house of Prince Borghese at Rome, and shown to the curious. F. Jacquer, a celebrated mathematician, has given a description in the Literary Gazette of Paris, but the naturalists cannot be contented with it. If permission was given to make the requisite experiments, this curious phenomenon might be better illustrated. There are five or six tables of that marble; their length is about two feet and a half, the breadth about ten inches, and the thickness a little less than three. They were dug up, as the Abbé Fortis was told, in the feod of Mondragone; the grain is of Carrarese marble, or perhaps of the finest Greek. They seem to have suffered some attack of fire; though the first degree of pulverization observable in the angles, can, perhaps, scarcely be called that of imperfect calcination. They are very dry, do not yield to external impression, rebound to the hammer, like other congenerous marble, and are perhaps susceptible of a polish. Being set on end, they bend oscillating backward and forward; when laid horizontally, and raised at one end, they form a curve, beginning towards the middle; if placed on a table, and a piece of wood or any thing else is laid under them, they make a salient curve, and touch the table with both ends. Notwith-

standing this flexibility, they are liable to be broken if indiscreetly handled; and therefore one table only, and that not the best, is shown to the curious. Formerly they were all together in the prince's apartment on the ground floor.

*Colouring of MARBLE.* This is a nice art; and in order to succeed in it, the pieces of marble on which the experiments are tried, must be well polished, and free from the least spot or vein. The harder the marble is, the better will it bear the heat necessary in the operation; therefore alabaster and the common soft white marble are very improper for performing these operations upon.

Heat is always necessary for opening the pores of marble, so as to render it fit to receive the colours; but the marble must never be made red-hot; for then the texture of it is injured, and the colours are burnt, and lose their beauty. Too small a degree of heat is as bad as one too great; for, in this case, though the marble receives the colour, it will not be fixed in it, nor strike deep enough. Some colours will strike even cold; but they are never so well sunk in as when a just degree of heat is used. The proper degree is that which, without making the marble red, will make the liquor boil upon its surface. The menstruums used to strike in the colours must be varied according to the nature of the colour to be used. A lixivium made with horses or dogs urine, with four parts of quicklime and one of potashes, is excellent for some colours; common ley of wood-ashes is very good for others; for some, spirit of wine is best; and lastly, for others, oily liquors, or common white wine.

The colours which have been found to succeed best with the peculiar menstruums, are these: Stone-blue dissolved in six times the quantity of spirit of wine, or of the urinous lixivium, and that colour which the painters call *litmus*, dissolved in common ley of wood-ashes. An extract of saffron, and that colour made of buckthorn berries, and called by painters *sap green*, both succeed well when dissolved in urine and quicklime; and tolerably well when dissolved in spirit of wine. Vermilion, and a very fine powder of cochineal, also succeed very well in the same liquors. Dragon's blood succeeds in spirit of wine, as does also a tincture of logwood in the same spirit. Alkanet-root gives a fine colour: but the only menstruum to be used for it is oil of turpentine; for neither spirit of wine, nor any lixivium, will do with it. There is another kind of *sanguis draconis*, commonly called *dragon's blood in tears*, which, mixed with urine, gives a very elegant colour.

Besides these mixtures of colours and menstruums, there are other colours which must be laid on dry and unmixed. These are, dragon's blood of the purest kind, for a red; gamboge for a yellow; green wax, for a green; common brimstone, pitch, and turpentine, for a brown colour. The marble for these experiments must be made considerably hot, and then the colours are to be rubbed on dry in the lump. Some of these colours, when once given, remain immutable, others are easily changed or destroyed. Thus, the red colour given by dragon's blood, or by a decoction of logwood, will be wholly taken away by oil of tartar, and the polish of the marble not hurt by it.

A fine gold colour is given in the following man-



Marble,  
Marbled.

ner: Take crude sal ammoniac, vitriol, and verdigris, of each equal quantities. White vitriol succeeds best: and all must be thoroughly mixed in fine powder.

The staining of marble to all the degrees of red or yellow, by solutions of dragon's blood or gamboge, may be done by reducing these gums to powder, and grinding them with the spirit of wine in a glass mortar. But, for smaller attempts, no method is so good as the mixing a little of either of those powders with spirit of wine in a silver spoon, and holding it over burning charcoal. By this means a fine tincture will be extracted: and, with a pencil dipt in this, the finest traces may be made on the marble while cold; which, on the heating of it afterwards, either on sand, or in a baker's oven, will all sink very deep, and remain perfectly distinct on the stone. It is very easy to make the ground colour of the marble red or yellow by this means, and leave white veins in it. This is to be done by covering the places where the whiteness is to remain with some white paint, or even with two or three doubles only of paper; either of which will prevent the colour from penetrating. All the degrees of red are to be given to marble by this gum alone; a slight tincture of it, without the assistance of heat to the marble, gives only a pale flesh colour: but the stronger tinctures give it yet deeper; to this the assistance of heat adds greatly; and finally, the addition of a little pitch to the tincture, gives it a tendency to blackness, or any degree of deep red that may be desired.

A blue colour may be given also to marble by dissolving turnsol in lixivium, in lime and urine, or in the volatile spirit of urine; but this has always a tendency to purple, whether made by the one or the other of these ways. A better blue, and used in an easier manner, is furnished by the Canary turnsol, a substance well known among the dyers. This needs only to be dissolved in water, and drawn on the place with a pencil: it penetrates very deeply into the marble; and the colour may be increased, by drawing the pencil wetted afresh several times over the same lines. This colour is subject to spread and diffuse itself irregularly: but it may be kept in regular bounds, by circumscribing its lines with beds of wax, or any such substance. It is also to be observed, that this colour should always be laid on cold, and no heat given even afterwards to the marble: and one great advantage of this colour is, that it is therefore easily added to marbles already stained with other colours, is a very beautiful tinge, and lasts a long time.

*Arundel MARBLES*, marbles with a chronicle of the city of Athens, inscribed on them (as was supposed) many years before our Saviour's birth; presented to the university of Oxford by Thomas earl of Arundel, whence the name. See *ARUNDELIAN Marbles*.

**MARBLED**, something veined or clouded, resembling marble. See **MARBLING**.

*MARBLED China-ware*, a name given by many to a species of porcelain or china-ware, which seems to be full of cemented flaws. It is called by the Chinese, who are very fond of it, *tsou tchi*. It is generally plain white, sometimes blue, and has exactly the appearance of a piece of china which had been first broken, and then had all the pieces cemented in their pla-

ces again, and covered with the original varnish. The manner of preparing it is easy, and might be imitated with us. Instead of the common varnish of the china-ware, which is made of what they call *oil of stone* and *oil of fern* mixed together, they cover this with a simple thing made only of a sort of coarse agates, calcined to a white powder, and separated from the grosser parts by means of water, after long grinding in mortars. When the powder has been thus prepared, it is left moist, or in form of a sort of cream, with the last water that is suffered to remain in it, and this is used as the varnish. Our crystal would serve full as well as those coarse agates, and the method of preparation is perfectly easy. The occasion of the singular appearance of this sort of porcelain is, that the varnish never spreads evenly, but runs into ridges and veins. These often run naturally into a sort of mosaic work which can scarce be taken for the effect of chance. If the marbled china he desired blue, they first give it a general coat of this colour, by dipping the vessel into a blue varnish; and when this is thoroughly dry, they add another coat of this agate-oil.

*Playing MARBLES*, are mostly imported from Holland; where it is said they are made by breaking the stone alabaster, or other substance, into pieces or chips, of a suitable size; these are put into an iron mill which turns by water: there are several partitions with rasps within, cut float-wise, not with teeth, which turn constantly round with great swiftness; the friction against the rasps makes them round, and as they are formed, they fall out of different holes, into which size or chance throws them. They are brought from Nuremberg to Rotterdam, down the Rhine, and from thence dispersed over Europe.

**MARBLING**, the method of preparing and colouring the marbled paper.

There are several kinds of marbled paper; but the principal difference of them lies in the forms in which the colours are laid on the ground: some being disposed in whirls or circumvolutions; some in jagged lengths; and others only in spots of a roundish or oval figure. The general manner of managing each kind is, nevertheless, the same; being the dipping the paper, in a solution of gum-tragacanth, or, as it is commonly called, *gum dragon*; over which the colours, previously prepared with ox-gall and spirit of wine, are first spread.

The peculiar apparatus necessary for this purpose, is a trough for containing the gum tragacanth and the colours; a comb for disposing them in the figure usually chosen; and a burnishing stone for polishing the paper. The trough may be of any kind of wood; and must be somewhat larger than the sheets of paper for marbling which it is to be employed; but the sides of it need only rise about two inches above the bottom; for by making it thus shallow, the less quantity of the solution of the gum will serve to fill it. The comb may be also of wood, and five inches in length; but should have brass teeth, which may be about two inches long, and placed at about a quarter of an inch distance from each other. The burnishing stone may be of jasper or agate; but as those stones are very dear when of sufficient largeness, marble or glass may be used, provided their surface be polished to a greater degree of smoothness.

These

Marbles,  
Marbling.



Marbling.

These implements being prepared, the solution of gum-tragacanth must be made, by putting a sufficient proportion of the gum, which should be white and clear from all foulness, into clean water, and letting it remain there a day or two, frequently breaking the lumps and stirring it till the whole shall appear dissolved and equally mixed with the water. The consistence of the solution should be nearly that of strong gum-water used in miniature painting; and if it appear thicker, water must be added; or if thinner, more of the gum. When the solution is thus brought to a due state, it must be passed through a linen cloth; and being then put into the trough, it will be ready to receive the colours.

The colours employed for red are carmine, lake, rose-pink, and vermilion; but the two last are too hard and glaring, unless they be mixed with rose-pink or lake, to bring them to a softer cast; and with respect to the carmine and lake, they are too dear for common purposes; for yellow, Dutch pink and yellow ochre may be employed:—for blue, Prussian blue and verditer may be used:—for green, verdigris, a mixture of Dutch pink and Prussian blue or verditer, in different proportions:—for orange, the orange lake, or a mixture of vermilion, or red lead, with Dutch pink: for purple, rose-pink and Prussian blue.

These several colours should be ground with spirit of wine till they be of a proper fineness; and then, at the time of using them, a little fish-gall, or in default of it the gall of a beast, should be added, by grinding them over again with it. The proper proportion of the gall must be found by trying them: for there must be just so much as will suffer the spots of colour, when sprinkled on the solution of the gum-tragacanth, to join together, without intermixing or running into each other.

When every thing is thus prepared, the solution of the gum-tragacanth must be poured into the trough; and the colours, being in a separate pot, with a pencil appropriated to each, must be sprinkled on the surface of the solution, by shaking the pencil, charged with its proper colour over it; and this must be done with the several kinds of colour desired, till the surface be wholly covered.

When the marbling is proposed to be in spots of a simple form, nothing more is necessary; but where the whirls or snail-shell figures are wanted, they must be made by means of a quill; which must be put among the spots to turn them about, till the effect be produced. The jagged lengths must be made by means of the comb above described, which must be passed through the colours from one end of the trough to the other; and will give them that appearance: but if they be desired to be pointed both ways, the comb must be again passed through the trough in a contrary direction; or if some of the whirls or snail-shell figures be required to be added, they may be yet made by the means before directed.

The paper should be previously prepared for receiving the colours, by dipping it over-night in water; and laying the sheets on each other with a weight over them. The whole being thus ready, the paper must be held by two corners, and laid in the most gentle and even manner on the solution covered with

the colours; and there softly pressed with the hand, that it may bear everywhere on the solution. After which it must be raised and taken off with the same care, and then hung to dry across a proper cord, subtended near at hand for that purpose; and in that state it must continue till it be perfectly dry. It then remains only to give the paper a proper polish: in order to which, it is first rubbed with a little soap; and then must be thoroughly smoothed by the glass polishers, such as are used for linen, and called the *calender glasses*. After which it should be again rubbed by a burnisher of jasper or agate; or, in default of them, of glass ground to the highest polish; for on the perfect polish of the paper depends in a great measure its beauty and value.

Gold or silver powders may be used, where desired, along with the colour; and require only the same treatment as them, except that they must be first tempered with gum-water.

Marbling of books or paper is performed thus: Dissolve four ounces of gum-arabic in two quarts of fair water; then provide several colours mixed with water in pots or shells; and, with pencils peculiar to each colour, sprinkle them by way of intermixture upon the gum-water, which must be put into a trough or some broad vessel; then with a stick curl them, or draw them out in streaks, to as much variety as may be done. Having done this, hold your book or books close together, and only dip the edges in, on the top of the water and colours, very lightly; which done, take them off, and the plain impression of the colours in mixture will be upon the leaves; doing as well the ends as the front of the book in the like manner.

Marbling a book on the covers is performed by forming clouds with aqua-fortis or spirit of vitriol mixed with ink, and afterwards glazing the covers. See BOOK BINDING.

MARC ANTONIO. See RAIMONDI.

MARCAHITE, an old term in mineralogy, given indifferently to ores, pyrites, and to semimetals. But more lately confined to pyrites, and to such pyrites as are regularly formed. See PYRITES, MINERALOGY *Index*.

MARCELLIANISM, the doctrines and opinions of the Marcellians, a sect of ancient heretics, towards the close of the second century, so called from Marcellus of Ancyra, their leader, who was accused of reviving the errors of Sabellius. Some, however, are of opinion, that Marcellus was orthodox, and that they were his enemies the Arians, who fathered their errors upon him. St Epiphanius observes, that there was a great deal of dispute with regard to the real tenets of Marcellus; but that, as to his followers, it is evident they did not own the three hypostases: for Marcellus considered the Son and Holy Ghost as two emanations from the divine nature, which, after performing their respective offices, were to return again into the substance of the Father; and this opinion is altogether incompatible with the belief of three distinct persons in the Godhead.

MARCELLINUS, AMMIANUS. See AMMIANUS.

MARCELLUS, MARCUS CLAUDIUS, a famous Roman general, who, after the first Punic war, had the management of an expedition against the Gauls. Here

Marbling  
||  
Marcellus.



Marcellus  
||  
March.

he obtained the *spolia opima*, by killing with his own hand Viridomarus the king of the enemy. Such success rendered him popular, and soon after he was intrusted to oppose Hannibal in Italy. He was the first Roman who obtained some advantage over this celebrated Carthaginian, and showed his countrymen that Hannibal was not invincible. The troubles which were raised in Sicily by the Carthaginians at the death of Hieronymus, alarmed the Romans; and Marcellus, in his third consulship, was sent with a powerful force against Syracuse. He attacked it by sea and land; but his operations proved long ineffectual, and the invention and industry of Archimedes were able to baffle all the efforts, and to destroy all the great and stupendous machines and military engines of the Romans, during three successive years. The perseverance of Marcellus at last obtained the victory. After this conquest, Marcellus was called upon by his country a second time to oppose Hannibal. In this campaign he behaved with greater vigour than before; the greatest part of the towns of the Samnites, which had revolted, were recovered by force of arms, and 3000 of the soldiers of Hannibal made prisoners. Some time after, in an engagement with the Carthaginian general, Marcellus had the disadvantage: but on the morrow a more successful skirmish vindicated his military character and the honour of the Roman soldiers. Marcellus, however, was not sufficiently vigilant against the snares of his adversary. He imprudently separated himself from his camp, and was killed in an ambuscade, in the 60th year of his age, in his 5th consulship, A. U. C. 544. His body was honoured by the conqueror with a magnificent funeral, and his ashes were conveyed in a silver urn to his son. Marcellus claims our commendation for his private as well as public virtues; and the humanity of a general will ever be remembered, who, at the surrender of Syracuse, wept on the thought that many were going to be exposed to the avarice and rapaciousness of an incensed soldiery, which the policy of Rome and the laws of war rendered inevitable.

MARCGRAVE, or MARGRAVE, a kind of dignity in Germany, answering to our marquis; (see MARQUIS). The word is derived from the German *Marche*, or *Marcke*, which signifies "a frontier;" and *Grafte*, "count, governor;" *Marcgraves* being originally governors of cities lying on the frontiers of a country or state.

MARCH, (*Martius*), the third month of the year, according to the common way of computing. See MONTH, and YEAR.

Among the Romans, March was the first month; and in some ecclesiastical computations, that order is still preserved; as particularly reckoning the number of years from the incarnation of our Saviour; that is, from the 25th of March.

It was Romulus who divided the year into months; to the first of which he gave the name of his supposed father *Mars*. Ovid, however, observes, that the people of Italy had the month of March before Romulus's time; but that they placed it very differently, some making it the third, some the fourth, some the fifth, and others the tenth month of the year.

In this month it was that the Romans sacrificed to Anna Perenna; that they began their comitia; that

they adjudged their public farms and leases; that the mistresses served the slaves and servants at table, as the masters did in the Saturnalia; and that the vestals renewed the sacred fire.

March.

The month of March was always under the protection of Minerva, and always consisted of 31 days.—The ancients held it an unhappy month for marriage, as well as the month of May.

MARCH, in the military art, is the moving of a body of men from one place to another. Nothing is laid down particularly concerning the marches of the Jewish armies; only thus much we may collect, that they made use of trumpets, to the different sounds of which they prepared themselves by packing up their baggage, putting themselves in readiness, and attending at the standards, to wait the signal for marching. We are told that the army of the Israelites marched in general no more than one league in a day and a half; but this appears to hold good only of their progress through difficult roads: For Follard says they might, in an open country, march four leagues in a day or more. The Rabbins suppose that the Israelites marched in the same order they were placed in their camp. The Greeks, let the posture of their affairs be what it would, never marched against their enemies till favourable omens encouraged the enterprise. An eclipse of the moon, or any untoward accident, or the intervening of what they esteemed an unlucky day, entirely prevented their march. But of all the Greeks the Lacedemonians were the most nice and scrupulous. The heavenly bodies directed all their motions; and it was an invariable maxim with them never to march before the full moon. The Greeks are particularly remarked by Homer for marching in good order and profound silence; whereas the Barbarian forces were all noise, clamour, and confusion. It is needless to say any thing concerning the marches of the Roman armies, more than that they were performed with the greatest order and despatch, insomuch that their unexpected presence frequently damped the spirits of their enemies. The Roman soldiers were inured to the military pace, that is, to walk 20 miles in five hours, though at the same time they carried burdens of 60 pounds weight.

Of all the mechanical parts of war, in modern times, none is more essential than that of marching. It may be justly called the *key* which leads to all sublime motions and manœuvres of an army; for they depend entirely on this point. A man can be attacked in four different ways; in the front, on both flanks, and in the rear: but he can defend himself, and annoy the enemy, only when placed with his face towards him. Hence it follows, that the general object of marching is reduced to three points only; to march forwards, and on both sides, because it is impossible to do it for any time backwards, and by that means face the enemy wherever he presents himself.—The different steps to be made use of are three: slow, fast, and oblique. The first is proper in advancing, when at a considerable distance from the enemy, and when the ground is unequal, that the line may not be broke, and a regular fire kept up without intermission. The second is chiefly necessary when you want to anticipate the enemy in occupying some post, in passing a defile, and, above all, in attacking an intrenchment,

to



March,  
Marchant

to avoid being a long while exposed to the fire of the artillery and small arms, &c. The third step is of infinite consequence, both in the infantry and cavalry; columns may be opened and formed into lines, and *vice versa*, lines into columns, by this kind of step, in a lesser space, and consequently in less time, than by any other method whatsoever. In coming out of a defile, you may instantly form the line without presenting the flank to the enemy. The line may be formed, though ever so near to the enemy, with safety; because you face him, and can with ease and safety protect and cover the motion of the troops, while they are coming out of the defiles, and forming. The same thing may be equally executed, when a column is to be formed in order to advance or retreat; which is a point of infinite consequence, and should be established as an axiom.

The order of march of the troops must be so disposed, that each should arrive at their rendezvous, if possible, on the same day. The quarter-master general, or his deputy, with an able engineer, should sufficiently reconnoitre the country, to obtain a perfect knowledge of it and the enemy, before he forms his routes.

Before a march, the army generally receives several days bread. The quarter-masters, camp colour men, and pioneers, parade according to orders, and march immediately after, commanded by the quarter-master-general or his deputy. They are to clear the roads, level the ways, make preparation for the march of the army, &c. The *general*, for instance, beats at two, the *assembly* at three, and the army to march in 20 minutes after. Upon beating the *general*, the village, and general officer's guards, quarter and rear guards, join their respective corps; and the army pack up their baggage. Upon beating the *assembly*, the tents are to be struck, and sent with the baggage to the place appointed, &c.

The companies draw up in their several streets, and the rolls are called. At the time appointed, the drummers are to beat a march, and fifers play at the head of the line, upon which the companies march out from their several streets, form battalions, as they advance to the head of line, and then halt.

The several battalions will be formed into columns by the adjutant-general, and the order of march, &c. be given to the general officers who lead the columns.

The cavalry generally march by regiments or squadrons. The heavy artillery always keeps the great roads in the centre of the columns, escorted by a strong party of infantry and cavalry. The field pieces march with the columns.

Each soldier generally marches with 36 rounds of powder and ball, and two good flints; one of which is to be fixed in the cock of his firelock. The routes must be formed so that no columns cross one another on the march.

MARCHAND, PROFESSOR, was from his youth brought up at Paris in the profession of a bookseller, and in the knowledge of books. He kept a regular correspondence with several learned men, among whom was Bernard the continuator of the *Nouvelles de la Republique des Lettres*, and furnished this writer with the literary anecdotes of France. Marchand, having embraced the Protestant religion, went to join Bernard

in Holland, where he might be at liberty to profess his religious opinions. He continued the trade of bookseller for some time; but afterwards quitted it, that he might dedicate himself wholly to the pursuits of literature. The history of France, together with a knowledge of books and authors, was always his favourite study. In the latter he was so eminently distinguished, that he was consulted from all parts of Europe. He was also one of the principal authors of the *Journal Littéraire*, one of the best periodical works which have appeared in Holland; and he furnished excellent extracts for the other journals. This valuable and learned man died at an advanced age, the 14th of June 1756; and left the little fortune which he had to a society instituted at the Hague, for the education and instruction of a certain number of poor people. His library, which was excellently chosen for literary history, together with his manuscripts, was left by his will to the university of Leyden. From him we have, 1. The History of Printing, a new edition of which has been promised by one of his friends. This work, which is full of notes and critical discussions, appeared in 1740 at the Hague, in 4to. There is such a prodigious display of erudition, and remarks and quotations are heaped together in such confusion, that when you get to the end of the chaos, you know not what conclusion to form concerning the points which have been discussed. Abbé Mercier, abbot of Saint Leger de Soissons, gave in 1775, 4to, a supplement to this history, which is equally curious and accurate. 2. An Historical Dictionary, or Memoirs Critical and Literary, printed at the Hague in 1758, in two small volumes, folio. In this work we meet with historical singularities, literary anecdotes, and a discussion of points of bibliography; but too great minuteness prevails in it, the style is deficient in point of purity, and the author is too much carried away by the heat and eagerness of his character. More erudition could not well be collected; especially upon subjects which, at least to the generality of readers, are so uninteresting. 3. A new edition of Bayle's Dictionary, and Letters of the *Cymbalum mundi*, &c.

MARCHANTIA, a genus of the natural order of algae, belonging to the cryptogamia class of plants. See BOTANY *Index*.

MARCHE, a province of France, bounded on the north by Berry, on the east by Auvergne, on the west by Angoumois, and on the south by Limosin. It is about 55 miles in length, and 25 in breadth, and is pretty fertile in corn and wine.

MARCHENA, a handsome, ancient, and considerable town of Spain, in Andalusia, with the title of a duchy, and a suburb as large as the town, seated in the middle of a plain, particularly fertile in olives, though very destitute of water. W. Long. 5. 20. N. Lat. 37. 20.

MARCHERS, or LORDS-MARCHERS, were those noblemen that lived on the marches of Wales or Scotland; who, in times past, according to Camden, had their laws, and *potestatem vitæ*, &c. like petty kings, which are abolished by the stat. 27 Hen. VIII. c. 26. and 1 Edw. VI. c. 10. In old records the lords marchers of Wales were styled *Marchianes de Marchia Wallie*. See 1 et 2 P. et M. c. 15.

MARCHES (*marchia*), from the German *march*,  
i. e.

Marchant  
||  
Marches.



**Marchet** i. e. *limes*, or from the French *marque*, viz. *signum* (being the notorious distinction between two countries or territories), are the limits between England and Wales, or between England and Scotland, which last are divided into west and middle marches, 4 Hen. V. c. 7 22 Ed. IV c. 8. 24 Hen. VIII c. 9. And there was formerly a court called the *court of the marches of Wales*, where pleas of debt or damages, not above the value of 50 pounds, were tried and determined; and if the council of the marches held plea for debts above that sum, &c. a prohibition might be awarded. Hill. 14 Car. I. Cro. Car. 38.

**MARCHET**, or **MARCHETTA**, a pecuniary fine, anciently paid by the tenant to his lord, for the marriage of one of the tenant's daughters. This custom obtained, with some difference, throughout all England and Wales, as also in Scotland; and it still continues to obtain in some places. According to the custom of the manor of Dinover in Caermarthenshire, every tenant at the marriage of his daughter pays ten shillings to the lord; which, in the British language, is called *gwair-merched*, i. e. *maid's fee*.

In Scotland, and the north parts of England, the custom was, for the lord to lie the first night with the bride of his tenant; but this usage was abrogated by King Malcolm III. at the instance of his queen; and, instead thereof, a mark was paid by the bridegroom to the lord: whence it was called *marchetta mulieris*. See *Borough English*.

**MARCIANA SILVA**, in *Ancient Geography*, a forest situated between the Rauraci and the Danube, before it comes to be navigable; a part of the Hercynia. Now Schwartzwald, or *Black Forest*, in the south-west of Suabia, near the rise of the Danube and Neckar.

**MARCIANUS**, a native of Thrace, born of an obscure family. After he had for some time served in the army as a common soldier, he was made private secretary to one of the officers of Theodosius. His winning address and uncommon talents raised him to higher stations; and on the death of Theodosius II. A. D. 450, he was invested with the imperial purple in the east. The subjects of the Roman empire had reason to be satisfied with their choice. Marcianus showed himself active and resolute; and when Attila, the barbarous king of the Huns, asked of the emperor the annual tribute, which the indolence and cowardice of his predecessors had regularly paid, the successor of Theodosius firmly said, that he kept his gold for his friends, but that iron was the metal which he had prepared for his enemies. In the midst of universal popularity, Marcianus died, after a reign of six years, in the 69th year of his age, as he was making warlike preparations against the barbarians that had invaded Africa. His death was long lamented; and indeed his merit was great, since his reign has been distinguished by the appellation of the Golden Age. Marcianus married Pulcheria the sister of his predecessor. It is said, that in the years of his obscurity he found a man who had been murdered, and that he had the humanity to give him a private burial; for which circumstance he was accused of the homicide, and imprisoned. He was condemned to lose his life; and the sentence would have been executed, had not the real murderer been discovered, and convinced the world of the

innocence of Marcianus.—Another emperor of the Marcionites east, A. D. 479, &c.

**MARCIONITES**, or **MARCIONISTS**, *Marcionista*, a very ancient and popular sect of heretics, who, in the time of St Epiphanius, were spread over Italy, Egypt, Palestine, Syria, Arabia, Persia, and other countries: they were thus denominated from their author Marcion. Marcion was of Pontus, the son of a bishop, and at first made profession of the monastical life; but he was excommunicated by his own father, who would never admit him again into the communion of the church, not even on his repentance. On this he abandoned his own country, and retired to Rome, where he began to broach his doctrines.

He laid down two principles, the one good, the other evil: between these he imagined an intermediate kind of deity of a mixed nature, who was the creator of this inferior world, and the god and legislator of the Jewish nation: the other nations, who worshipped a variety of gods, were supposed to be under the empire of the evil principle. These two conflicting powers exercise oppressions upon rational and immortal souls; and therefore the supreme God, to deliver them from bondage, sent to the Jews a being more like unto himself, even his son Jesus Christ, clothed with a certain shadowy resemblance of a body: this celestial messenger was attacked by the prince of darkness, and by the god of the Jews, but without effect. Those who follow the directions of this celestial conductor, mortify the body by fastings and austerities, and renounce the precepts of the god of the Jews and of the prince of darkness, shall after death ascend to the mansions of felicity and perfection. The rule of manners which Marcion prescribed to his followers was excessively austere, containing an express prohibition of wedlock, wine, flesh, and all the external comforts of life.

Marcion denied the real birth, incarnation, and passion of Jesus Christ, and held them to be all apparent only. He denied the resurrection of the body; and allowed none to be baptized but those who preserved their continence; but these, he granted, might be baptized three times. In many things he followed the sentiments of the heretic Cerdon, and rejected the law and the prophets. He pretended the gospel had been corrupted by false prophets, and allowed none of the evangelists but St Luke, whom also he altered in many places as well as the epistles of St Paul, a great many things in which he threw out. In his own copy of St Luke he threw out the two first chapters entire.

**MARCITES**, **MARCITÆ**, a sect of heretics in the second century, who also called themselves the *perfecti*, and made profession of doing every thing with a great deal of liberty and without any fear. This doctrine they borrowed from Simon Magus, who however was not their chief; for they were called *Marcites* from one Marcus, who conferred the priesthood, and the administration of the sacraments, on women.

**MARCO POLO**, **PAOLO**, or *Paulo*. See **PAULO**.

**MARCOMANNI**, an ancient people of Germany, who seem to have taken their name from their situation on the limits or marches, to the east of the Higher Rhine, and the north of the Danube. Cluverius allots to them the duchy of Wurtemberg, a part of the

Marchet

Marcianus.

Marco-  
manni.



Marcotians  
 ||  
 Marets.
 
 the palatinate between the Rhine and the Necker, the Brisgau, and a part of Suabia, lying between the springs of the Danube and the river Bregentz: they afterwards removed to the country of the Boii, whom they expelled and forced to withdraw more to the east, occupying what is now called *Bohemia*. (Strabo, Vel-leius.)

**MARCOSIANS**, or **COLOBARSIANS**, an ancient sect in the church, making a branch of the **VALENTINIANS**.

St Irenæus speaks at large of the leader of this sect, Marcus, who it seems was reputed a great magician. The Marcotians had a great number of apocryphal books which they held for canonical, and of the same authority with ours. Out of these they picked several idle fables touching the infancy of Jesus Christ, which they put off for true histories. Many of these fables are still in use and credit among the Greek monks.

**MARCULUS**, among the Romans, a knocker or instrument of iron to knock at doors with.

**MARCUS AURELIUS ANTONINUS**. See **ANTONINUS**.

**MARDIKERS**, or **TOPASSES**, a mixed breed of Dutch, Portuguese, Indians, and other nations, incorporated with the Dutch at Batavia, in the East Indies.

**MARE**, the female of the horse kind. See **EQUUS**, **MAMMALIA Index**, and **HORSE**.

**MAREOTIS**, a lake in Egypt near Alexandria. Its neighbourhood was famous for wine, though according to some the *Mareoticum vinum* is the produce of Epirus, or of a certain part of Libya, called also *Mareotis*, near Egypt.

**MARETS, JEAN DE**, a Parisian, one of the finest geniuses of the 17th century, became at last a visionary and a fanatic. He was a great favourite of Cardinal Richelieu, and possessed an employment of genius under him; for he was called upon to relax and divert him, after the fatigue of business by facetious conversation. He used, in order to triumph over the virtue of women, when they objected to him the interest of their salvation, to lead them into atheistical principles. He was a member of the French academy from its first erection. He wrote several dramatic pieces, which were well received. He attempted an epic poem; but after spending several years about it, dropped the design to write books of devotion. He likewise wrote romances; but not such virtuous ones as used to be written at that time. He was a declared enemy of the Jansenists. His visions are well described by the Messieurs de Port Royal. He promised the king of France, by the explication of prophecies, the honour of overthrowing the Mahometan empire, and every species of what he was pleased to denominate heresy, bringing the whole world to the profession of the true faith. This he said Louis XIV. was to accomplish at the head of 144,000 elect. Extravagant and absurd as these declarations were, he was, notwithstanding, admired and patronised by some of the bishops; and though a layman, he was permitted to vent his reveries in religious houses, and assume the direction of devotees of both sexes. He maintained his credit with the great to the very last, and died in 1676, at the age of 81. In his last years he wrote something against Boileau's Satires.

**MARETS, Samuel de**, one of the most celebrated divines of the reformed church, was born in Picardy, VOL. XII. Part II.

Marets.  
 Margaret.
 
 in 1599. In 1620, he was settled in the church of Laon; but, in 1624, accepted a call to that of Sedan, to succeed James Cappel in the office of pastor and professor of divinity. Having soon after obtained leave of absence from his flock, he visited Holland, where he was admitted to the degree of doctor of divinity at Leyden, in 1625. From Holland he took a voyage to England, and after a short stay in that country he returned to Sedan, where he commenced his labours in the divinity chair. These he continued for about seven years, with reputation to himself, but not without being sometimes involved in troubles, which he bore with a commendable resolution.

In 1631 he was made chaplain to the army of the duke de Bouillon in Holland; but that nobleman having married a Roman Catholic lady, M. de Marets advised him to adhere steadily to the protestant faith, on which account he incurred the displeasure of the dukes. Thus circumstanced, he received in 1636, an invitation to become pastor to the church of Boisleduc, with which he complied, and in the following year he was appointed professor of the *schola illustris* of the same city. The duties of this office he discharged with such diligence and success, that in 1640, the curators of the university of Franeker sent him the offer of a professorship, which he declined; but two years after he accepted a similar offer from the university of Groningen, to which his services were devoted for upwards of thirty years. In 1652 he was made sole minister of the Walloon church at Groningen, where till that time he had gratuitously preached once every Sunday, to assist the pastor. Influenced by the fame of his extraordinary merits, the magistrates of Berne in 1661 offered him the chair of professor of divinity at Laufanne, with considerable emoluments, but he declined this offer; and his death happened before he took possession of a similar charge at Leyden, of which he had accepted. His System of Divinity was found to be so methodical, that it was made use of at other academies; and at the end of it may be found a chronological table of all his works. Their number is prodigious; and their variety shows the extent of his genius. He was moreover engaged in many disputes and controversies, and died in 1673.

**MARGARET, ST**, a celebrated virgin, who, as is supposed, received the crown of martyrdom at Antioch in the year 275: the manner of her death is not known. The ancient martyrologists make no mention of her name, and she did not become famous till the 11th century. There is no more foundation for what is said concerning her relics and girdles than for the stories which are told of her life. A festival, however, is still held in honour of her memory on the 20th of July: See *Baillet's Lives of the Saints*, for that day. "Her actions (says this authority) have been so falsified and altered, in the opinion even of Metaphrastus, that the Romish church have not thought proper to insert any of them into their breviary. The Orientals pay reverence to her by the name of *Saint Pelagia* or *Saint Marina*, and the western church by that of *Saint Geruma* or *Saint Margaret*."

**MARGARET**, the daughter and heiress of Florent count of Holland, who is famous on account of a story repeated by a hundred compilers even of the 18th century. Having refused charity to a woman whom she at the same time accused of adultery, she was, at



Margaret. a punishment from God, brought to bed (A. D. 1276), of 365 children, partly boys and partly girls. The boys, it is added, were all named *John*, and the girls *Elizabeth*. This story is represented in a large painting in a village not far from the Hague; and by the side of the painting are seen two large basons of brass, on which it is pretended the 365 children were presented to be baptized. But if a picture is a sufficient authority for the truth of any thing, it is impossible to tell how many fables would be fully attested. It has been remarked, that the most ancient annals are altogether silent concerning this fact; and that it is related only by modern writers, who besides do not agree with one another concerning either the date of time, or the life of the countess, or the number of the children; and in short, that Nassau, who was at that time bishop of Utrecht, was called *John*, and not *Gui*, as the chronicles declare. Several learned men have endeavoured to trace the cause which could have given rise to a relation so extraordinary. M. Struik fixed upon the epitaphs of the mother and son, which appeared to him worthy of some attention; and, in conformity to the dates which they bear, he supposed that the countess was brought to bed on Good Friday 1276, which was the 26th of March. Now, as the year then began on the 25th of the same month, there were only two days of the year elapsed when the countess was brought to bed, which circumstance caused it to be said that she had brought into the world as many children as there were days in the year. In fact only two children are mentioned in history, John and Elizabeth. The fable thus explained is only a common event, wherein there is nothing of the marvellous, but in consequence of a double meaning in the expression. Later writers, who have not examined this circumstance, have ascribed 365 children to the countess. *Journal des Sçavans*, February, 1758, on the General History of the United Provinces.

MARGARET, *Countess of Richmond and Derby*, the learned and pious mother of Henry VII. was born at Betsheo in Bedfordshire, in 1441; and was the sole heiress of John Beaufort duke of Somerset, grandson to John of Gaunt. Her mother was the heiress of Lord Beauchamp of Powick. Whilst yet very young, the great duke of Suffolk, minister to Henry VI. or rather to Queen Margaret, sought her in marriage to his son; and she was at the same time solicited by the king for his half brother Edmund earl of Richmond. To the latter she gave her hand. Henry VII. was the sole fruit of this marriage, his father dying when he was but 15 weeks old. Her second husband was Sir Henry Stafford, knight, second son to the duke of Buckingham; by whom she had no issue. Soon after his death, which happened in the year 1482, she sought consolation in a third husband, Thomas Lord Stanley, who, in the first year of her son's reign, was created earl of Derby. He died in the year 1504, without issue, being then high constable of England. She survived her lord not quite five years, dying at Westminster in June 1509, in the 69th year of her age. She was buried in Henry VII.'s chapel; on the south side of which was erected to her memory an altar-tomb of black marble, with her statue of brass.

From her funeral sermon preached by her confessor Bishop Fisher, who, says Ballard, knew the very secrets of her soul, we learn, "that she possessed almost all things that were commendable in a woman, either in mind or body." She understood the French language perfectly, and had some knowledge of the Latin. She was devout even to austerity, in humility romantic, profuse in the encouragement of learning, and singularly chaste; but this last virtue became conspicuous only towards the latter end of a third marriage. "In her last husband's days (says Baker), she obtained a licence of him to live chaste, whereupon she took upon her the vow of celibacy." 'A boon (says Mr Walpole), as seldom requested, I believe a third husband, as it probably would be easily granted.' Her life, from the turbulence of the times, and vicissitude of her son's fortune, must necessarily have been subject to infinite disquiet, which however she is said to have supported with singular fortitude. She wrote, 1. The *Mirrore of Golde for the sinful soule*, translated from a French translation of a book called *Speculum aureum peccatorum*. Emprynted at London, in Flete-strete, at the signe of St George, by Richard Pynson, quarto, with cuts on vellum. 2. Translation of the fourth book of Dr Gerfen's *Treatise of the Imitation* and following the blessed Life of our most merciful Saviour Christ. Printed at the end of Dr William Atkinson's English translation of the three first books, 1504. 3. A letter to the king: in Howard's collection. 4. By her son's order and authority, she also made the orders for great estates of ladies and noble women, for their precedence, and wearing of barbes at funerals, over the chin and under the same.

MARGARET, the daughter of Woldemar III. king of Denmark, styled the *Semiramis of the North*; she succeeded her father in the throne of Denmark, her husband in that of Norway; and the crown of Sweden was given her as a recompense for delivering the Swedes from the tyranny of Albert their king. Thus possessed of the three kingdoms, she formed the grand political design of a perpetual union, which she accomplished, *pro tempore* only, by the famous treaty styled the *union of Calmar*. She died in 1412, aged 59.

MARGARET of Anjou, daughter of René d'Anjou, king of Naples, and wife of Henry VI. king of England: an ambitious, enterprising, courageous woman. Intrepid in the field, she signalized herself by heading her troops in several battles against the house of York; and if she had not been the authoress of her husband's misfortunes, by putting to death the duke of Gloucester his uncle, her name would have been immortalized for the fortitude, activity, and policy with which she supported the rights of her husband and son, till the fatal defeat at Tewksbury; which put an end to all her enterprises, the king being taken prisoner, and Prince Edward their only son basely murdered by Richard duke of York. Margaret was ransomed by her father, and died in Anjou in 1482. See ENGLAND, N° 201—226.

MARGARET, *Duchess of Newcastle*. See CAVEN-DISH.

MARGARITA, or PEARL-ISLAND, an island of South America, the middle of which is seated in W. Long.



Margarita Long. 64. 2. N. Lat. 11. 30. It was discovered by Columbus, and is about 35 leagues in compass. The soil is very fertile in maize and fruits, and abounds in pasture and verdant groves; yet is totally destitute of fresh water, which the inhabitants are obliged to bring from the continent. When the Spaniards first landed here, they found the natives busy in fishing for oysters. Columbus ordered some of the savages aboard his ship, who were so far from being terrified, that they very soon became familiar with the Spaniards. The latter at first imagined that the oysters served them for food; but on opening the shells, they found they contained valuable pearls. Upon this discovery they immediately landed, and found the natives ready to part with their pearls for the merest trifles. In process of time the Spaniards built a castle, called *Monpadre*, and employed prodigious numbers of Guinea and Angola negroes in the pearl fishery; cruelly forcing them to tear up the oysters from the rocks to which they stuck, during which time many of them were destroyed by the sharks and other voracious fishes. In 1620, this island was invaded by the Dutch, who demolished the castle upon it: since which time it has been in a manner abandoned by the Spaniards; and is now principally inhabited by the natives, to whom some particular indulgences were granted by the court of Spain, on account of their ready submission to Columbus.

MARGARITA, the *Pearl*, in *Natural History*. See PEARL and MYA.

MARGARITINI, are glass ornaments, made at Venice, of small glass tubes of different colours, which are blown at Murano, and which the women of the lower class wear about their arms and necks. The largest sort are used for making rosaries. This work is performed with great dispatch, the artisan taking a whole handful of these tubes at once, and breaking them off one after another with an iron tool. These short cylinders are mixed with a kind of ashes, and put over the fire in an iron pan; and when the two ends begin to melt, by stirring them about with an iron wire, they are brought to a round figure; but care is taken not to leave them too long over the fire, lest the hole through which they are to be strung should be entirely closed by the melting of the glass. There are several streets at Francesco de Vigna entirely inhabited by people whose sole occupation is to make and string these margaritini.

MARGATE, a sea-port town of Kent, on the north side of the isle of Thanet, near the North Foreland. It is noted for shipping vast quantities of corn (most, if not all, the product of that island) for London; and has a salt-water bath at the post-house, which has performed great cures in nervous and paralytic cases, and numbness of the limbs. It lies in St John's parish, which is a member of the port of Dover, at the distance of 14 miles, 12 from Canterbury, and 72 from London; and in the summer season is frequented for sea-bathing, having become one of the principal watering places for the idle, the opulent, and the invalid, where they meet with every requisite accommodation; and the adjacent country abounds with most extensive prospects and pleasant rides. E. Long. 1. 30. N. Lat. 51. 24.

MARHATTAS, MERHATTAS, MARATTAS, or

MAHRATTAS; a people of India, and by far the most considerable of all the Hindoo powers. The Marhattas boast a very high antiquity; they profess the religion of Brama; speak a dialect of the Sanscrit language, in which they have introduced all the technical terms of Mogul administration; use a character of their own in writing, though not very different from some of the other tribes around them; and are divided into four casts or classes of people, with the various subdivisions of professional distinction found over the rest of Hindostan; but with this remarkable difference, that among the Marhattas every individual may, as in fact he occasionally does, follow the life of a soldier.

As a nation inhabiting immemorially the country properly denominated *Marhat* or *Merhat*, and comprehending the greater part of the *Paislwa's* present dominions in the Decan, they were completely subjugated, and afterwards for many centuries depressed, first by the Patans, then by the Mogul conquerors of Delhi. At length, towards the end of *Alemgeer's* reign, they united, rebelled, and under the famous *Sewajee* or *Seeva-jee*, a leader of their own tribe, laid the foundations of their present vast empire, which has risen gradually on the ruins of the Mohamedan power, as related under the article HINDOSTAN.

Seeva-jee was succeeded by his son *Rajah Sahou*, who considerably extended the Marhatta dominions. When *Rajah Sahou* grew old and infirm, and the fatigues of government began to press heavy upon him, he appointed *Bissonat Balajee*, a Brahman born at *Gokum*, and leader of about 25,000 horse, to the office of *Paislwa* or vicegerent.

*Rajah Sahou* died without issue, but left nephews by his brother. The courage and wisdom of *Balajee* had gained him, during the latter years of the old *raja*, the affection and esteem of all the nation. But, under an appearance of modesty and self-denial, his prevailing passion was ambition; and the sentiments of gratitude and loyalty were absorbed in the desire to command. He made use of the influence he had acquired under his benefactor so firmly to establish his own power, that he not only retained the high office of *Paislwa* during his life, but transmitted it to his posterity. The Marhattas, gradually forgetting a prince they knew nothing of, became accustomed to obey his vicegerent only: yet a certain respect for the royal race, or the dread of the consequence of violating the strong prejudice which the nation still retains in favour of the family of its founder, have served perhaps to preserve it; and the descendants of *Rajah Sahou's* nephews yet exist, but are kept in captivity in the palace at *Sattarah*. The eldest is styled *Ram Rajah*, or sovereign; his name is on the seal and coin of the Marhatta state; but his person is unknown, except to those who immediately surround him. He resides in his splendid prison, encompassed with the appendages of eastern grandeur, but debarred of all power, and kept totally ignorant of business. The seat of government was transferred from the ancient royal residence of *Sattarah* to *Poonah*; and the usurper, as well as his successors, seem still to have acted under the supposed authority of the deposed prince, by their assuming no other title or character than that



Marhattas of Paishwa or prime minister. From this change, the empire of the Ram Rajah has been distinguished only by the appellation of the *Paishwahship*, or otherwise the *Government of Poonah*, from the name of its present capital.

Biffonat Balajee was succeeded as Paishwa by his eldest son Balajee Row (called also *Nana Saheb*, or *Nanah Row*), who left three sons, the eldest of whom, Balajee Pandit, sometimes called Nanah Pandit, succeeded him. The two others were Rogobah or Ragonat Row, and Shamsheer Row.

Balajee Pandit left two sons; Mahadava Row, who was Paishwa twelve years; and Narrain Row, who succeeded him.

During the latter part of the life of Mahadava Row, his uncle Rogobah was confined to the palace at Poonah, for reasons with which we are not acquainted. Mahadava Row died without issue; and upon the accession of Narrain his brother, a youth of about 19 years of age, Rogobah in vain applied to be released from his confinement. He is therefore suspected of having entered into a conspiracy with two officers in his nephew's service, Somair Jing and Yusuf Gardie, in order to procure that by force which he could not obtain by estreaty. The correspondence between the conspirators was carried on with so much secrecy, that the court had not the least intimation or suspicion of their design, till every avenue leading to the palace had been secured, and the whole building surrounded by the troops under the command of those two officers. It is said, that on the first alarm, Narrain Row, suspecting his uncle, ran to his apartment, threw himself at his feet, and implored his protection: "You are my uncle (said he), spare the blood of your own family, and take possession of a government which I am willing to resign to you."

Somair and Yusuf entered the room whilst the young Paishwa was in this suppliant posture. Rogobah, with apparent surprise and anger, ordered them to withdraw; but as they either knew him not to be sincere, or thought they had proceeded too far to retreat, they stabbed Narrain with their poniards whilst he clung to his uncle's knees.

The office of Paishwa being now vacant, the chiefs of the nation then at Poonah were assembled, and Rogobah being the only survivor of the family of Biffonat Balajee, to whose memory the Marhattas in those parts are enthusiastically attached, he was named to fill it. Being naturally of a warlike temper, he resolved to undertake some foreign expedition; for besides gratifying his passion for the field, he probably hoped, by the splendour of his exploits, to draw off the attention of the public from inquiring into the late catastrophe.

A pretence for war was not difficult to be found. He renewed the claim of his nation to the *chout*, and marched his army towards Hydrabad, the capital of the Nizam. The vigour of his measures procured him an accommodation of his demand; and he was proceeding to enforce a similar one upon the Carnatic, when he received intelligence which obliged him to return hastily to Poonah.

Although the Marhatta chiefs had acknowledged Rogobah as Paishwa, yet they and the people in general were much dissatisfied with his conduct. The

murderers of Narrain Row had not only escaped punishment, but, as was reported, had been rewarded. The crime was unexampled, and the perpetrators were beheld with uncommon horror and detestation. The Paishwa had hitherto so fully possessed the love of the people, that, till then, guards were considered as unnecessary about the person of a man whose character rendered him inviolable. Every one therefore had free access to his palace, and he relied with confidence for his safety upon the affections of those who approached him.

These reflections operated powerfully upon the minds of the Marhattas; but perhaps no violent consequences would have ensued, had it not been discovered, soon after the departure of Rogobah from Poonah, that the widow of Narrain Row, Ganga Bacc, was pregnant. This determined their wavering resolutions. Frequent consultations were held among the principal men then in the capital; and it was finally resolved to abjure the allegiance they had sworn to Rogobah, and declare the child, yet unborn, to be the legal successor of the late paishwa.

A council of regency was immediately appointed to govern the country until the child should become of age; and it was agreed to reserve their deliberations, in case it should prove a female or die, till the event should render them necessary. They who principally conducted these measures, and whose names will on that account be remembered, were Sackharam Babou and Balajee Pandit, called also Nanah Pher Nevees from his having been long the principal secretary of the Marhatta state. Nine other Marhatta leaders approved of these measures, and swore to maintain them.

As the first step towards the execution of their plan, the widow of Narrain Row was conveyed to Poorender, a fort of great strength, situated on a high mountain, about 25 miles from Poonah. As soon as Rogobah received intimation of this revolution, he marched back towards the capital. But discontent had already infected his troops; some of the chiefs retired to their estates, and others joined the standard of the regents. He however risked a battle with an army of the revolted commanded by Trimbec Row, in which the latter was slain; but though he obtained a victory, the strength of the confederates daily increased, while his own troops were diminished by continual desertions. He therefore found it necessary to retire to Ugein, and to solicit the assistance of the Marhatta chiefs Scindia and Holkar; but meeting with a refusal, he went to Surat, and applied for succour to the English.

Rogobah's success in this application was the cause of two wars with the Marhatta state; which, after much waste of blood and treasure, we were obliged to conclude by relinquishing his claim, and acknowledging as legal paishwa the son of Narrain Row, who was born about seven months after the death of his father. See INDIA and HINDOSTAN.

The Marhatta dominions, as already observed, are governed by a number of separate chiefs, all of whom acknowledge the Ram Rajah as their sovereign; and all except Moodajee Boonfalah, own the paishwa as his vicegerent. The country immediately subject to the paishwa, including all the hereditary territories that were left by the Rajah Sahou to the Ram Rajah,

and



Marhattas. and those that have been acquired and added to them since in his name, extends along the coast nearly from Goa to Cambay; on the south it borders on the possessions of Tippoo Saib, eastward on those of the Nizam and of the Marhatta rajah of Berar, and towards the north on those of the Marhatta chiefs Scindia and Holkar.

Moodajee Boonfalah, rajah of Berar, possessed, besides Berar, the greatest part of Orixia. This prince being descended from the line of the Ram Rajah, eyes the power of the pashwa, by whom a branch of his family is kept in ignominious confinement, with ill will; has often refused to support his measures; and, on some occasions, has even seemed inclined to act against him.

Next to Moodajee, in point of importance, must be ranked Madajee Scindia, a bold and aspiring chief, who possesses the greatest part of the extensive seaboard or government of Malva, together with part of the province of Candeish. The remainder is under the dominion of Holkar. Both he and Scindia pretend to be descended from the ancient kings of Malva. Scindia resides chiefly at Ugein, near the city of Mundu, once the capital of these kings; and Holkar at Indoor, a town little more than 30 miles west of it. The dominions of these, and of some chiefs of less consequence, extend as far as the river Jumna.

The measures pursued by the Marhattas for some years left little room to doubt that they aspired at the sovereignty of all Hindostan, or at least at the expulsion of the Mohamedan princes: And in this last design they appear to have succeeded\*, and to have gained a great accession of territory, through the arms of Scindia, both by the capture of the cities of Agra and Delhi, with their territorial dependencies, and the consequent captivity of the unfortunate monarch who ruled there as the last imperial representative of the great Mogul race of Timur. "The whole of the dominion thus newly established is of vast extent, stretching near 1200 miles along the frontiers of Tippoo and the Nizam in a north-east direction, from Goa on the Malabar coast to Balasore in Orissa adjoining to Bengal; and from thence north-westerly 1000 miles more, touching the confines of the British and allied states, on the borders of the Ganges and Jumna, to the territory of the Seiks at Paniput, rendered famous in 1761 for the last memorable defeat sustained by the Marhattas in their ambitious contest for empire with the united declining power of the Mohamedans. From this place in a southerly course, with great encroachment on the old eastern boundary of the Rajepoot country of Ajmere, it runs about 260 miles to the little Hindoo principality of Kotta, and thence south-westerly 540 miles further to the extreme point of the soubah of Gujerat at Duarka, including the whole of that fertile province; from whence, along the sea-coasts of Cambay and Malabar to Goa, the distance may be reckoned 800 miles. Thus the overgrown empire of the Marhattas may be said to extend east 19 degrees of longitude, near the parallel of 22 degrees north latitude, from the mouths of the Indus to those of the Ganges; and about 13 degrees of latitude north, from the Kistnah to Paniput; comprehending at least an area of 400,000 square geographical miles, being considerably more than a third part

of Hindostan, including the Decan, and equal perhaps in dimensions to all the British and allied states in India, with those of Golconda and Mysore, taken together.

Such was the state of affairs in India so far as the Marhattas were concerned a few years ago. By consulting the history of India, the reader will observe; that the power and dominion of these enterprising chiefs have been since greatly abridged by the successful progress of the British arms. See INDIA.

MARIA, or SANCTA MARIA, an island of the Indian ocean, lying about five miles east from Madagascar. It is about 27 miles long and five broad; well watered, and surrounded by rocks. The air is extremely moist, for it rains almost every day. It is inhabited by 500 or 600 negroes, but seldom visited by ships.

MARIA, *St*, a considerable town of South America, in the audience of Panama, built by the Spaniards after they had discovered the gold mines near it, and soon after taken by the English. It is seated at the bottom of the gulf of St Michael, at the mouth of a river of the same name; which is navigable, and the largest that falls into the gulf. The Spaniards come here every year in the dry season, which continues three months, to gather the gold dust out of the sands of the neighbouring streams; and carry away great quantities. W. Long. 148. 30. N. Lat. 7. 0.

MARIA, *St*, a handsome and considerable town of Spain, in Andalusia, with a small castle. It was taken by the English and Dutch in 1702, for the archduke of Austria. It is seated on the Guadaleta, at the mouth of which is a tower and a close battery. W. Long. 5. 33. N. Lat. 36. 35.

MARIAN ISLANDS. See *LADRONE ISLANDS*.

MARIANA, JOHN, a learned Spanish historian, born at Talavera in the diocese of Toledo. He entered among the Jesuits in 1554, at 17 years of age; and became one of the most learned men of his time. He was a great divine, a good humanist, and profoundly versed in ecclesiastical as well as profane history. He taught at Rome, in Sicily, at Paris, and in Spain; and died at Toledo in 1624. His principal works are, 1. An excellent history of Spain in 30 books: which he himself translated from the Latin into Spanish, without servilely following his own Latin edition. 2. *Scholæ*, or short notes on the Bible. 3. A treatise on the changes the specie has undergone in Spain; for which he was thrown into prison by the duke of Lerma, the Spanish minister. 4. A famous treatise *De rege et regis institutione*, which made much noise, and was condemned by the parliament of Paris to be burnt by the hands of the common hangman, for his asserting in that work, that it is lawful to murder tyrants. 5. A work on the faults of the government of the society of Jesuits, which has been translated into Spanish, Latin, Italian, French, &c.

MARIANUS SCOTUS, an Irish monk, was related to the venerable Bede, and wrote a chronicle which is esteemed. He died in the abbey of Fulda in 1086, aged 58.

MARIBONE, or ST MARY LE BONE, or rather *Borne*, from the neighbouring brook, a parish of Middlesex, on the north-west side of London. The manor appears to have belonged anciently to the bishop of London.

\* An Historical and Political View of the Decan.



Maridunum  
||  
Marine.

London. The houses in this parish are very numerous, comprising several extensive streets and squares, which are every year increasing. The Paddington road from Islington passes through this parish, which gives it communication with the eastern part of London without passing through the streets. Here were three conduits erected about the year 1238, for supplying the city of London with water; but anno 1703, when it was plentifully served by the New River, the citizens let them out at 700l. a-year for 43 years. There were two for receiving its water at the north-east corner of the bridge on the river Tyburn, and over them stood the lord mayor's banqueting house, to which (the use of coaches being not then known) his lordship and the aldermen used to ride on horseback, as their ladies did in waggons. This banqueting house, after being many years neglected, was taken down in 1737, and the cisterns arched over. This village, if it may be called by that name, is joined by new buildings to London. The old church, which was a mean edifice, was pulled down, and a new one erected in 1741. Besides which it has a great number of chapels of every sect and persuasion, and an extensive workhouse for the poor.

MARIDUNUM, in *Ancient Geography*, a town of the Demetæ in Britain. Now *Caer Mardin*, or *Caermarthen*, the capital of Caermarthenshire.

MARIGALANTE, an island of North America, and one of the least of the Caribbees, lies in N. Lat. 16. 32. and W. Long. 61. 5. from London, at the distance of four leagues from Guadaloupe, to the south. The soil, produce, and climate, are pretty much the same as the other Caribbees. Columbus discovered it in his second American voyage in 1483, and called it by the name of his ship *Maria Galanta*, or *Gallant Mary*. It is about six leagues long, and between three and four broad. Viewed at a distance from on board a ship, it appears like a floating island, because, as it is for the most part flat, the trees seem to swim; but a nearer prospect shows it to be intersected by some rising grounds, which give a fine variety to the landscape. The French settled here in 1648; and it was taken by the English in 1691, but the French soon got possession of it again. It was again taken by the British in 1759, but afterwards restored at the peace 1763.—This island was thought, on its first discovery, to want water; but a charming running stream has in time been discovered, no less convenient than refreshing and wholesome, on the banks of which are some wealthy planters, and excellent plantations of sugar. A little village in a small bay is the capital of the island, and here the commandant resides. The whole island is very capable of improvement; the soil being almost equally good, and the land rising nowhere too high. The coast affords many little bays, and safe anchorage and shelter to ships.

MARINE, a general name for the navy of a kingdom or state; as also the whole economy of naval affairs; or whatever respects the building, rigging, arming, equipping, navigating, and fighting ships. It comprehends also the government of naval armaments, and the state of all the persons employed therein, whether civil or military.

The history of the marine affairs of any one state is a very comprehensive subject, much more that of all

nations. Those who would be informed of the maritime affairs of Great Britain, and the figure it has made at sea in all ages, may find abundance of curious matter in Selden's *Mare Clausum*; and from his time to ours, we may trace a series of facts in Lediard's and Burchet's *Naval History*; but above all in the *Lives of the Admirals*, by the accurate and judicious Dr Campbell.

MARINES, or *MARINE Forces*, a body of soldiers raised for the sea service, and trained to fight either in a naval engagement or in an action ashore.

The great service of this useful corps was manifested frequently in the course of the war before last, particularly at the siege of Belleisle, where they acquired a great character, although lately raised and hardly exercised in military discipline. At sea they are incorporated with the ship's crew, of which they make a part; and many of them learn in a short time to be excellent seamen, to which their officers are ordered by the admiralty to encourage them, although no sea officer is to order them to go aloft against their inclination. In a sea fight their small arms are of very great advantage in scouring the decks of the enemy; and when they have been long enough at sea to stand firm when the ship rocks, they must be infinitely preferable to seamen if the enemy attempts to board, by raising a battalion with their fixed bayonets to oppose him.

The sole direction of the corps of marines is vested in the lords commissioners of the admiralty; and in the admiralty is a distinct apartment for this purpose. The secretary to the admiralty is likewise secretary to the marines, for which he has a salary of 300l. a-year; and he has under him several clerks for the management of this department.

The marine forces of Great Britain in the time of peace are stationed in three divisions; one of which is quartered at Chatham, one at Portsmouth, and another at Plymouth. By a late regulation, they are ordered to do duty at the several dock-yards of those ports, to prevent embezzlement of the king's stores, for which a captain's guard mounts every day; which certainly requires great vigilance, as so many abuses of this kind have been committed, that many of the inhabitants, who have been long used to an infamous traffic of this kind, expect these conveyances at certain periods as their due, and of course resent this regulation in the highest degree as an infringement of their liberties as British subjects.

The marine corps are under the command of their own field officers, who discipline them, and regulate their different duties. His late majesty in 1760 formed a new establishment of marine officers, entitled, the *general*, *lieutenant general*, and *three colonels* of marines (one for each division), to be taken from officers in the royal navy. The two first are always enjoyed by flag officers, the last by post captains only. This establishment was formed to reward such officers who distinguished themselves in the service of their country.

*MARINE Discipline*, is the training up soldiers for sea service, in such exercises as the various positions of the firelock and body, and teaching them every manœuvre that can be performed on board ships of war at sea. See EXERCISE.

*MARINE Chair*, a machine invented by Mr Irwin for viewing the satellites of Jupiter at sea, and of course



Marine.  
||  
Marino.

course determining the longitude by their eclipses. An account of it is given in the *Journal Etranger* for March 1760. An account of its accuracy was published the year following by M. de l'Isle astronomer in the Imperial academy of Petersburg: but notwithstanding the encomiums bestowed upon it by this gentleman, it hath never come into general use; and therefore we may conclude, that it is much inferior to the inventions of Mr Harrison for the same purpose. See HARRISON and LONGITUDE.

*MARINE Surveyor*, is the name of a machine contrived by Mr H. de Saumarez for measuring the way of a ship in the sea. This machine is in the form of the letter Y, and is made of iron, or any other metal. At each end of the lines which constitute the angle or upper part of that letter, are two pallets, not much unlike the figure of the log; one of which falls in the same proportion as the other rises. The falling or pendant pallet meeting a resistance from the water, as the ship moves, has by that means a circular motion under water, which is faster or slower according as the vessel moves. This motion is communicated to a dial within the ship, by means of a rope fastened to the tail of the Y, and carried to the dial. The motion being thus communicated to the dial, which has a bell in it, it strikes exactly the number of geometrical paces, miles, or leagues, which the ship has run. Thus the ship's distance is ascertained; and the forces of tides and currents may also be discovered by this instrument: which, however, has been very little used.

*MARINE Acid*, an old name given to muriatic acid, which see in CHEMISTRY *Index*.

MARINER, the same with a sailor or seaman. See these articles.

*Method of preserving the health of MARINERS*. See SEAMEN.

*MARINER's Compass*. See COMPASS.

ST MARINO, a small town and republic of Italy, situated in E. Long. 13. 44. N. Lat. 44. 21. This small republic consists only of a mountain, and a few hillocks, that lie scattered about the bottom of it. The number of the inhabitants is about 5000. The mountain yields good wine, but they have no other than rain or snow water. The founder of the republic was a Dalmatian, and a mafon, who upwards of 1300 years ago turned hermit, and retired to this mountain. Here his devotion and austerity, and, in consequence of that, his reputation for sanctity, were such, that the princes of the country made him a present of the mountain; on which many, out of veneration for the saint, soon after took up their abode. Thus was the foundation laid of the town and republic, which still bears the name of the saint. The town stands on the top of the mountain, and there is only one way by which it can be come at. In the whole territory are only three castles, three convents, and five churches. The largest of the churches is dedicated to the saint, and contains his ashes and his statue. He is looked upon as the greatest saint, next to the blessed Virgin; and to speak disrespectfully of him is accounted blasphemy, and punished as such. The republic is under the protection of the pope. All that are capable of bearing arms are exercised, and ready at a minute's call. In the ordinary course of government, the administration is in the

hands of the council of 60, which, notwithstanding its name, consists only of 40; one-half of the members of which are of the noble families, and the other of the plebeian: on extraordinary occasions, however, the arengo, in which every house has its representative, is called together. The two principal officers are the capitaneos, who are chosen every half year; and next to them is the commissary, who judges in civil and criminal matters, and is joined in commission with the capitaneos; both he and the physician must be foreigners, and both have their salaries out of the public stock. When any person, after due summons, neglects to assist at the council according to their statute book, he is to be fined in about a penny English; and when an ambassador is to be sent to any foreign state, he is to be allowed about 1s. a-day.

*MARINO, John Baptist*, a celebrated Italian poet, born at Naples in 1569. His father, who was an able civilian, obliged him to study the law; at which being disgusted, he left his parents, and retired to the house of the Sieur Manzi, who was a friend to all persons of wit. He at length became secretary to Matthew of Capua, great admiral of the kingdom of Naples, and contracted a friendship with Tasso. A short time after, he went to Rome, and entered into the service of Cardinal Aldobrandini, nephew to Pope Clement VIII. who took him with him to Savoy. Marino was in great favour with the court of Turin; but afterwards created himself many enemies there, the most furious of whom was the poet Gaspard Murtola, who, attempting to shoot him with a pistol, wounded one of the duke of Savoy's favourites. Marino being obliged to leave Turin, went to Paris at the desire of Queen Mary de Medicis, and published there his poem on Adonis. He afterwards went to Rome, where he was made prince of the academy of the humoristi; from thence to Naples, where he died while he was preparing to return home. He had a very lively imagination, but little judgement; and, giving way to the points and conceits then in vogue, his authority, far from correcting the false taste of the Italians, served rather to keep it farther from reformation. His works which are numerous, have been often printed.

MARINUS, an engraver, who flourished about the year 1630, and resided principally at Antwerp. His plates, Mr Strutt observes, are executed in a very singular style, with the graver only: The strokes are very fine and delicate, and crossed over each other in a lozenge-like form, which he filled up with thin long dots. His prints, though generally very neat, want the style of the master in the determination of the folds of the draperies and the outline of the human figure; the extremities of which are heavy, and not marked with precision. Fine impressions from his best plates are, however, much sought after by collectors; those especially after Rubens and Jordans are held in high estimation.

MARIONIS, in *Ancient Geography*, a town of Germany: now Hamburg, a famous trading city on the Elbe, in Lower Saxony, in the duchy of Holstein. Another Marionis (Ptolemy), thought to be Wismar, a town of Lower Saxony, in the duchy of Mecklenburgh.

MARJORAM. See ORIGANUM, BOTANY *Index*.

MARITAGIUM. In the feudal customs, *maritagium*

Marino  
||  
Maritagium.



*Maritime.* *gium* (as contradistinguished from *matrimonium*) signifies the power which the lord or guardian in chivalry had of disposing of his infant ward in matrimony. For while the infant was in ward, the guardian had the power of tendering him or her a suitable match without disparagement or inequality: which if the infants refused, they forfeited the value of the marriage, *valorem maritagii*, to their guardian; that is, so much as a jury would assess, or any one would *bona fide* give to the guardian for such an alliance: and if the infants married themselves without the guardian's consent, they forfeited double the value, *duplicem valorem maritagii*.

**MARITIME**, something relating to, or bounded by the sea. Thus a maritime province or country is one bounded by the sea; and a maritime kingdom is one that makes a considerable figure, or that is very powerful at sea. Hence, by *maritime* powers among the European states, are understood Great Britain and formerly Holland.

*MARITIME State*, in British polity, one of the three general divisions of the laity: (See **LAITY**). This state is nearly connected with the military; though much more agreeable to the principles of our free constitution. The royal navy of England hath ever been its greatest defence and ornament; it is its ancient and natural strength; the floating bulwark of the island; an army from which, however strong and powerful, no danger can ever be apprehended to liberty; and accordingly it has been assiduously cultivated from earliest ages. To so much perfection was our naval reputation arrived in the 12th century, that the code of maritime laws, which are called the *laws of Oleron*, and are received by all nations in Europe as the ground and substruction of all their marine constitutions, was confessedly compiled by our king Richard I. at the isle of Oleron on the coast of France, then part of the possessions of the crown of England. And yet so vastly inferior were our ancestors in this point to the present age, that even in the maritime reign of Queen Elizabeth, Sir Edward Coke thinks it matter of boast, that the royal navy of England then consisted of *three and thirty ships*. The present condition of our marine is in great measure owing to the salutary provisions of the statutes called the *navigation acts*; whereby the constant increase of English shipping and seamen was not only encouraged, but rendered unavoidably necessary. By the statute 5 Richard II. c. 3. in order to augment the navy of England, then greatly diminished, it was ordained, that none of the king's liege people should ship any merchandise out of or into the realm, but only in ships of the king's ligeance, on pain of forfeiture. In the next year, by statute 6 Rich. II. c. 8. this wise provision was enervated, by only obliging the merchants to give English ships (if able and sufficient) the preference. But the most beneficial statute for the trade and commerce of these kingdoms is that navigation act, the rudiments of which were first framed in 1650, with a narrow partial view; being intended to mortify our own sugar islands, which were disaffected to the parliament, and still held out for Charles II. by stopping the gainful trade which they then carried on with the Dutch, and at the same time to clip the wings of those our opulent and aspiring neighbours.

*Maritime.* This prohibited all ships of foreign nations from trading with any English plantations, without license from the council of state. In 1651, the prohibition was extended also to the mother country: and no goods were suffered to be imported into England, or any of its dependencies, in any other than English bottoms; or in the ships of that European nation of which the merchandise imported was the genuine growth or manufacture. At the Restoration, the former provisions were continued, by stat. 12 Car. II. c. 18. with this very material improvement, that the master and three-fourths of the mariners shall also be English subjects.

Many laws have been made for the supply of the royal navy with seamen; for their regulation when on board; and to confer privileges and rewards on them during and after their service.

1. For their supply. The principal, but the most odious, though often necessary method for this purpose, is by impressing; see **IMPRESSING**. But there are other ways that tend to the increase of seamen, and manning the royal navy. Parishes may bind out poor boys apprentices to the masters of merchantmen, who shall be protected from impressing for the first three years; and if they are impressed afterwards, the masters shall be allowed their wages: great advantages in point of wages are given to volunteer seamen, in order to induce them to enter into his majesty's service: and every foreign seaman, who, during a war shall serve two years in any man of war, merchantman, or privateer, is naturalized *ipso facto*. About the middle of King William's reign, a scheme was set on foot for a register of seamen to the number of 30,000 for a constant and regular supply of the king's fleet; with great privileges to the registered men; and, on the other hand, heavy penalties in case of their non-appearance when called for; but this registry, being judged to be rather a badge of slavery, was abolished by stat. 9 Ann. c. 21.

2. The method of ordering seamen in the royal fleet, and keeping up a regular discipline there, is directed by certain express rules, articles, and orders, first enacted by the authority of parliament soon after the Restoration; but since new modelled and altered, after the peace of Aix-la-Chapelle, to remedy some defects which were of fatal consequences in conducting the preceding war. In these articles of the navy almost every possible offence is set down, and the punishment thereof annexed: in which respect the seamen have much the advantage over their brethren in the land service; whose articles of war are not enacted by parliament, but framed from time to time at the pleasure of the crown. Yet from whence this distinction arose, and why the executive power, which is limited so properly with regard to the navy, should be so extensive with regard to the army, it is hard to assign a reason: unless it proceeded from the perpetual establishment of the navy, which rendered a permanent law for their regulation expedient, and the temporary duration of the army, which subsisted only from year to year, and might therefore with less danger be subjected to discretionary government. But, whatever was apprehended at the first formation of the mutiny act, the regular renewal of our standing force at the entrance of every year has made this distinction idle.

For,



Marius. For, if from experience past, we may judge of future events, the army is now lastingly ingrafted into the British constitution; with this singularly fortunate circumstance, that any branch of the legislature may annually put an end to its legal existence, by refusing to concur in its continuance.

3. The privileges conferred on sailors, are pretty much the same with those conferred on soldiers, with regard to relief, when maimed, or wounded, or superannuated, either by county-rates, or the royal hospital at Greenwich; with regard also to the exercise of trades, and the power of making nuncupative testaments; and farther, no seaman aboard his majesty's ships can be arrested for any debt, unless the same be sworn to amount at least to twenty pounds; though, by the annual mutiny acts, a soldier may be arrested for a debt which extends to half that value, but not to a less amount.

MARIUS, the famous Roman general, and seven times consul, who sullied his great military reputation by savage barbarities. He was born at Arpinum, of obscure and illiterate parents. He forsook the meaner occupations of the country for the camp; and signalized himself under Scipio, at the siege of Numantia. The Roman general saw the courage and intrepidity of young Marius, and foretold the era of his future greatness. By his seditions and intrigues at Rome, while he exercised the inferior offices of the state, he rendered himself known; and his marriage with Julia, who was of the family of the Cæsars, contributed in some manner to raise him to consequence. He passed into Africa as lieutenant to the consul Metellus against Jugurtha; and after he had there ingratiated himself with the soldiers, and raised enemies to his friend and benefactor, he returned to Rome and canvassed for the consulship. The extravagant promises he made to the people, and his malevolent insinuations about the conduct of Metellus, proved successful. He was elected and appointed to finish the war against Jugurtha. He showed himself capable in every degree to succeed to Metellus. Jugurtha was defeated, and afterwards betrayed into the hands of the Romans by the perfidy of Bocchus. No sooner was Jugurtha conquered, than new honours and fresh trophies awaited Marius. The provinces of Rome were suddenly invaded by an army of 300,000 barbarians, and Marius was the only man whose activity and boldness could resist so powerful an enemy. He was elected consul, and sent against the Teutones. The war was prolonged, and Marius was a third and fourth time invested with the consulship. At last two engagements were fought, and not less than 200,000 of the barbarian forces of the Ambrones and Teutones were slain in the field of battle, and 90,000 made prisoners. The following year, A. U. C. 651, was also marked by a total overthrow of the Cimbri, another horde of barbarians; in which 140,000 were slaughtered by the Romans, and 60,000 taken prisoners. After such honourable victories, Marius with his colleague Catullus entered Rome in triumph; and for his eminent services he received the appellation of the *third founder of Rome*. He was elected consul a sixth time; and as his intrepidity had delivered his country from its foreign enemies, he sought employment at home, and his restless ambition began to raise seditions, and to oppose the

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power of Sylla. This was the foundation of a civil war. Sylla refused to deliver up the command of his forces, with which he was empowered to prosecute the Mithridatic war; and he resolved to oppose in person the authors of a demand which he considered as arbitrary and improper. He advanced to Rome, and Marius was obliged to save his life by flight. The unfavourable winds prevented him from seeking a safer retreat in Africa, and he was left on the coast of Campania, where the emissaries of his enemy soon discovered him in a marsh, where he had plunged himself in the mud, and left only his mouth above the surface for respiration. He was violently dragged to the neighbouring town of Minturnæ; and the magistrates, all devoted to the interest of Sylla, passed sentence of immediate death on their magnanimous prisoner. A Gaul was commanded to cut off his head in the dungeon; but the stern countenance of Marius disarmed the courage of the executioner: and when he heard the exclamation of *Tunc, homo, aude occidere Caium Marium?* the dagger dropped from his hand. Such an uncommon adventure moved the compassion of the inhabitants of Minturnæ. They released Marius from prison; and favoured his escape to Africa, where he joined his son Marius, who had been arming the princes of that country in his cause. Marius landed near the walls of Carthage, and he received no small consolation at the sight of the venerable ruins of a once powerful city, which like himself had been exposed to calamity, and felt the cruel vicissitude of fortune. This place of his retreat was soon known; and the governor of Africa, to conciliate the favour of Sylla, compelled Marius to fly to a neighbouring island. He soon after learned that Cinna had embraced his cause at Rome, when the Roman senate had stripped him of his consular dignity, and bestowed it upon one of his enemies. This intelligence animated Marius; he set sail to assist his friend only at the head of 1000 men. His army, however, was soon increased, and he entered Rome like a conqueror. His enemies were inhumanly sacrificed to his fury; Rome was filled with blood; and he, who once had been called the saviour of his country, marched through the streets of the city, attended by a number of assassins, who immediately slaughtered all those whose salutations were not answered by their leader. Such were the signals for bloodshed. When Marius and Cinna had sufficiently gratified their resentment, they made themselves consuls; but Marius, already worn out with old age and infirmities, died sixteen days after he had been honoured with the consular dignity for the seventh time, A. U. C. 666. Such was the end of Marius, who rendered himself conspicuous by his victories and by his cruelty. As he was brought up in poverty and among peasants, it will not appear wonderful that he always betrayed rusticity in his behaviour, and despised in others those polished manners and that studied address, which education had denied him. He hated the conversation of the learned only because he was illiterate; and if he appeared an example of sobriety and temperance, he owed these advantages to the years of obscurity which he passed at Arpinum. His countenance was stern, his voice firm and imperious, and his disposition untractable. He was in the 70th year of his age when he died; and Rome seemed to rejoice at

Marius.



Marius  
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Mark.

the fall of a man whose ambition had proved so fatal to many of her citizens. His only qualifications were those of a great general; and with these he rendered himself the most illustrious and powerful of the Romans, because he was the only one whose ferocity seemed capable to oppose the barbarians of the north.

MARIUS, C. the son of the great Marius, was as cruel as his father, and shared his good and his adverse fortune. He made himself consul in the 25th year of his age, and murdered all the senators who opposed his ambitious views. He was defeated by Sylla, and fled to Præneste, where he killed himself.

MARIUS, *M. Aurelius*, a native of Gaul; who, from the mean employment of a blacksmith, became one of the generals of Gallienus, and at last caused himself to be saluted emperor. Three days after this elevation, a man who had shared his poverty without partaking of his more prosperous fortune, publicly assassinated him, and he was killed by a sword which he himself had made in the time of his obscurity. Marius has been often celebrated for his great strength; and it is confidently reported, that he could stop, with one of his fingers only, the wheel of a chariot in its most rapid course.

MARIUS, *Maximus*, a Latin writer, who published an account of the Roman emperors from Trajan to Alexander, now lost. His compositions were entertaining, and executed with great exactness and fidelity. Some have accused him of inattention, and complain that his writings abounded with many fabulous and insignificant stories.

MARIVAUX, PETER CARLET DE, a French writer in the dramatic way and in romance, was born of a good family at Paris in 1688. A fine understanding, well improved by education, distinguished him early. His first object was the theatre, where he met with the highest success in comic productions; and these, with the merit of his other works, procured him a place in the French academy. The great characteristic of both his comedies and romance was, to convey an useful moral under the veil of wit and sentiment: "My only object (says he) is to make men more just and more humane;" and he was as amiable in his life and conversation as he was in his writings. He died at Paris in 1763, aged 75. His works consist of, 1. *Pieces de Theatre*, 4 vols. 12mo. 2. *Homere travesti*, 12mo; which is not supposed to have done much honour to his taste. 3. *Le Spectateur François*, 2 vols. 12mo. 4. *Le Philosophe Indigent*, 12mo. 5. *Vie de Marianne*, 2 vols. 12mo; one of the best romances in the French language. 6. *Le Paysan Parvenu*, 12mo. 7. *Pharfamon*; inferior to the former.

MARK, ST, was by birth a Jew, and descended of the tribe of Levi. He was converted by some of the apostles, probably by St Peter; to whom he was a constant companion in all his travels, supplying the place of an amanuensis and interpreter. He was by St Peter sent into Egypt, fixing his chief residence at Alexandria, and the places thereabout: where he was so successful in his ministry, that he converted multitudes both of men and women. He afterwards removed westwards, towards the parts of Libya, going through the countries of Marmorica, Pentapolis, and others thereabouts; where, notwithstanding the bar-

barity and idolatry of the inhabitants, he planted the gospel. Upon his return to Alexandria, he ordered the affairs of that church, and there suffered martyrdom in the following manner. About Easter, at the time the solemnities of Serapis were celebrated, the idolatrous people, being excited to vindicate the honour of their deity, broke in upon St Mark, while he was performing divine service, and, binding him with cords, dragged him through the streets, and thrust him into prison, where in the night he had the comfort of a divine vision. Next day the enraged multitude used him in the same manner, till, his spirits failing, he expired under their hands. Some add, that they burnt his body, and that the Christians decently interred his bones and ashes near the place where he used to preach. This happened in the year of Christ 68. Some writers assert, that the remains of St Mark were afterwards, with great pomp, translated from Alexandria to Venice. However, he is the tutelar saint and patron of that republic, and has a very rich and stately church erected to his memory. This apostle is author of one of the four gospels inscribed with his name. See the following article.

*St MARK'S Gospel*, a canonical book of the New Testament, being one of the four gospels.

St Mark wrote his gospel at Rome, where he accompanied St Peter in the year of Christ 44. Tertullian and others pretend, that St Mark was no more than an amanuensis to St Peter, who dictated this gospel to him; others affirm, that he wrote it after St Peter's death. Nor are the learned less divided as to the language it was written in; some affirming that it was composed in Greek, others in Latin. Several of the ancient heretics received only the gospel of St Mark; others, among the Catholics, rejected the 12 last verses of this gospel. The gospel of St Mark is properly an abridgement of that of St Matthew.

*St MARK the Evangelist's Day*, a festival of the Christian church, observed April 25.

*Canons of St MARK*, a congregation of regular canons founded at Mantua, by Albert Spinola, a priest, towards the end of the 12th century. Spinola made a rule for them, which was approved, corrected, and confirmed by several succeeding popes. About the year 1450 they were reformed, and followed only the rule of St Augustine. This congregation having flourished for the space of 400 years, declined by little and little, and is now become extinct.

*Knights of St MARK*, an order of knighthood in the republic of Venice, under the protection of St Mark the evangelist. The arms of the order are, gules, a lion winged or; with this device, PAX TIBI MARCE EVANGELISTA. This order is never conferred but on those who have done signal service to the commonwealth.

MARK, or *Marc*, in commerce, denotes a weight used in several states of Europe, and for several commodities, especially gold and silver. In France, the mark is divided into eight ounces, 64 drachms, 192 deniers or penny-weights, 160 esterlins, 300 mails, 640 felins, or 4608 grains. In Holland, the mark weight is also called *Troy-weight*, and is equal to that of France. When gold and silver are sold by the mark, it is divided into 25 carats.

Mark.



Mark  
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Marlbo-  
rough.

MARK is also used among us for a money of account, and in some other countries for a coin. See *MONEY-Table*.

The English mark is two thirds of a pound sterling, or 13s. 4d. and the Scotch mark is of equal value in Scots money of account, viz. 13½d.

MARKET, a public place in a city or town, in which live cattle, provisions, or other goods, are set to sale; and also a privilege, either by grant or prescription, by which a town is enabled to keep a market.

*Court of the Clerk of the MARKET*, is incident to every fair and market in the kingdom, to punish misdemeanors therein; and a court of *pie poudre* is to determine all disputes relating to private or civil property. The object of this jurisdiction (see stat. 17 Car. II. cap. 10. 22 Car. II. cap. 8. 23 Car. II. cap. 12). is principally the cognizance of weights and measures to try whether they be according to the true standard thereof or not; which standard was anciently committed to the custody of the bishop, who appointed some clerk under him to inspect the abuse of them more narrowly; and hence this officer, though now usually a layman, is called the clerk of the market.— If they be not according to the standard, then, beside the punishment of the party by fine, the weights and measures themselves ought to be burnt. This is the lowest court of criminal jurisdiction in the kingdom.

MARKLAND, JEREMIAH, one of the most learned scholars and penetrating critics of the age, was born in 1692, and received his education in Christ's hospital. He became first publicly known by his *Epistola Critica*, addressed to Bishop Hare. In this he gave many proofs of extensive erudition and critical sagacity. He afterwards published an edition of Statius, and some plays of Euripides; and assisted Dr Taylor in his editions of Lyfias and Demosthenes, by the notes which he communicated to him. He has also very happily elucidated some passages in the New Testament, which may be found in Mr Bowyer's edition of it; and was author of a very valuable volume of remarks on the epistles of Cicero to Brutus, and of an excellent little treatise under the title of *Questio Grammatica*. He died in 1775, at Milton, near Dorking in Surry; and was a man not more valued for his universal reading than beloved for the excellency of his heart and primitive simplicity of his manners.

MARLBOROUGH, a town of Wiltshire in England, situated near the source of the Kennet, at the foot of a chalky hill, 75 miles from London. It has its name from the chalky soil, which was formerly called *marl*. It was a Roman station. In the year 1627, a parliament was held in the castle here, which made those laws called *Marlborough statutes*. There are still some small remains of its walls and ditch. The town, which is an ancient borough by prescription, sends two members to parliament. It is governed by a mayor, 2 justices, 12 aldermen, 24 burgesses, a town-clerk, 2 bailiffs, 12 serjeants at mace, &c. It consists chiefly of one broad street, with piazzas all along one side of it, two parish churches, and several commodious inns, it being the grand thoroughfare from London to Bath and Bristol. To the south are some relics of a priory, particularly the Gate-house; and

the site of a Roman castrum, the foundations of which have been discovered there, with Roman coins. The ditch is still in some parts 20 feet wide; and towards the river, without the garden walls, one angle of the castrum is very visible with the rampart and ditch entire. The mount at the west end of the town, which was the keep or main guard of the castle, is converted into a pretty spiral walk; at the top of which is an octagon summer house. This town has often suffered by fire, particularly in 1690, whereupon the parliament passed an act to prevent its houses from being thatched.

MARLBOROUGH, *Duke of*. See CHURCHILL.

MARLBOROUGH-FORT, an English factory on the west coast of the island of Sumatra in Asia; seated three miles west of the town of Bencoolen. E. Long. 101. 12. S. Lat. 4. 21.

MARLE, a mixture of calcareous with siliceous and argillaceous earth, very much used in agriculture as a manure. See AGRICULTURE and MINERALOGY *Index*.

MARLINE, in sea affairs, are tarred white skains, or long wreaths or lines of untwisted hemp, dipped in pitch or tar, with which cables or other ropes are wrapped round, to prevent their fretting or rubbing in the blocks or pulleys through which they pass. The same serves in artillery upon ropes used for rigging gins, usually put up in small parcels called *skains*.

MARLOE, CHRISTOPHER, an English dramatic author, was a student in the university of Cambridge; but afterwards turning player, he trode the same stage with the inimitable Shakespeare. He was accounted an excellent poet even by Ben Johnson himself. He wrote six tragedies, one of which called *Lust's Dominion*, or the *Lascivious Queen*, has been altered by Mrs Behn, and acted under the title of *Abdelazar*, or the *Moor's Revenge*. Some time before his death, he had made a considerable progress in an excellent poem entitled *Hero and Leander*: which was afterwards finished by George Chapman, who is said to have fallen short of the spirit and invention discovered by Marloe. Mr Anthony Wood represents him as a freethinker, in the worst sense of the word; and gives the following account of his death. Falling deeply in love with a low girl, and having for his rival a fellow in livery, Marloe, imagining that his mistress granted him favours, was fired with jealousy, and rushed upon him in order to stab him with his dagger: but the footman avoided the stroke, and, seizing his wrist, stabbed him with his own weapon; of which wound he died, in the year 1593.

MARLOW, a town of Buckinghamshire, in England, 31 miles from London, lies under the Chiltern hills, in a marly soil. It is a pretty large borough, though not incorporated, with a bridge over the Thames, not far from its conflux with Wycomb, and has a handsome church and town-hall. It first sent members to parliament in the reign of Edward II. Bone lace is its chief manufacture. The Thames brings goods hither from the neighbouring towns, especially great quantities of meal and malt from High Wycomb, and beech from several parts of the county, which abounds with this wood more than any in England. In the neighbourhood are frequent horse-races; and here are several corn and paper mills, particularly

Marlbo-  
rough  
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Marlow.



Marly. on the river Loddon, between this town and High Wycomb. There are, besides, the Temple-mills, for making thimbles, and another for pressing oil from rape and flax seeds.

At Great Marlow there is an institution supported by government for the education of young men destined for the army. The pupils are entirely under military discipline, and are instructed by able professors in the various branches of mathematics, &c. connected with military tactics.

MARLY, a palace belonging to the king of France, between Versailles and St Germain; seated in a valley, near a village and forest of the same name. It is noted for its fine gardens and water-works, there being a curious machine on the river Seine, which not only supplies them with water, but also those of Versailles. It is 10 miles north-west of Paris. E. Long. 2. 11. N. Lat. 48. 52.

*MARLY, Machine at.* When Lewis the Great had fixed upon a favourite situation in the forest of Marly, where he intended to erect a splendid castle, he found that it wanted nothing either in point of beauty or convenience but a fountain of water; and he immediately determined to supply by the assistance of art what nature had denied it. An ingenious and self-taught carpenter from Liege, named Rannequin, undertook to conduct from the Seine a copious supply of water, and for this purpose contrived and erected the celebrated and complicated machine which we are now to describe.

The machinery is driven by 14 underhot water wheels of 36 feet diameter, reckoning from the ends of the floatboards, disposed in three rows. In the first row there are seven wheels, in the second six, and in the third only one. By these wheels the water is raised through pumps into the first reservoir about 160 feet about the level of the river, then to a second reservoir 346 feet high, and from this to the summit of a tower about 533 feet above the Seine.

The two extremities of the axle of each wheel extend beyond the gudgeons on which they rest, and are bent into a crank so as to form a lever two feet long. The crank which is towards the mountain drives the water of the river into the first reservoir, and the other crank gives motion to the balances.

An engine of eight pumps is wrought by one of the cranks of each of the six wheels in the first row. These engines consist of a balance, at each end of which hangs a square piece of wood that supports and directs four pistons. This balance is moved by a beam in the form of a T, the horizontal part of which is connected at one end with the balance by the intervention of a vertical regulator or beam, and at the other with the crank of the wheel by means of a horizontal iron rod.

One of the cranks of each of the *six wheels* of the first row, (excepting that which is next the mountain), and two of the cranks of the 14th wheel, or that in the last row, give motion to the pumps in the river and carry the water into the first reservoir. This motion is communicated from the cranks by means of an iron rod which is fixed to the lower end of a vertical balance. A horizontal regulator or beam is fixed to each end of this balance, and to these regulators are fastened chains which follow the declivity of the mountain till they reach the superior reservoirs. When the

wheel is revolving, therefore, one of these chains will be dragged towards the river, and the other towards the mountain. In order to produce this alternate motion, the chains are supported and kept at equal distances by a number of vertical balances, placed along the mountain at every three toises, and moving upon a centre supported by a frame lying between the two chains and equidistant from them. When these chains reach the first reservoir they are fixed to vertical regulators, which carry frames, to which are adapted the pistons of the sucking pumps. These regulators therefore will be drawn one after another by their corresponding chains; and when one regulator is drawn by its chain, the piston of the pumps which it carries will be raised, and the water will follow them: At the same time the pistons of the other regulator are descending to form a vacuum; and these in their turn ascend with their load of water when the others are in the act of descending. In the pumps formerly mentioned which work in the river, an effect is produced upon the pistons both when they ascend and descend, because they are moved by stiff iron rods; but in the present case the pistons descend merely by their own weight, as the motion is transmitted only by a chain. By these pumps the water is conveyed to the upper reservoir by two conduit pipes of eight inches and three others of six inches diameter.

The *sixth wheel* of the first row, which is the first towards the dam, moves a long chain which works the pumps of one of the wells of the upper reservoir. The seventh wheel gives motion to a chain which goes to the first cistern.

By means similar to these already described, the six wheels of the second row move by each of their cranks a chain that goes to the second reservoir, and eight of these chains work 16 pumps behind it, to bring back into the reservoir the water which is lost out of the six pipes that go to the tower. These chains go over one of the first cisterns, and five of them at the same time give motion to the pistons of thirty pumps, whilst the other chains go on straight to the great reservoir. These 30 pumps convey their water through two pipes of 8 inches diameter into the upper reservoir. The five chains, after working these 30 pumps, give motion to the pistons of 82 pumps in the second reservoir which raise the water from it to the tower.

The basis of the tower which receives the water raised from the river is 610 fathoms distant from it; and the water runs from this basin along an aqueduct of 36 arches by its own weight. From this aqueduct the water is distributed into great reservoirs, from which it is conveyed to the gardens and shrubberies around the castle.

The quantity of water raised by this machine amounts at a mean rate to 30,000 or 40,000 gallons per hour; though in favourable circumstances it raises more than 60,000 gallons per hour. But while the Seine either overflows its banks, or is frozen, or when the water is very low, the machine is scarcely capable of performing any work.

The yearly expence of the machine at Marly including the salaries of the superintendants and the expences of repairs, amounts to about 3300l. sterling, or 9l. per day, which makes the expence of 90 gallons of water one farthing. But if we take into the account the interest



Marly  
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Marolles.

interest of 333,000*l.* the original expence of the machine, 90 gallons will cost three halfpence, or 15 gallons one farthing.

Notwithstanding the magnificence of this great machine, and the ingenuity which is displayed in its construction, every person who examines it with care, will perceive innumerable defects, whether he examines it as a whole, or attends to the parts of which it is composed. In several positions the moving forces act with great obliquity, and therefore occasion an immense waste of power; and in order to give an alternate motion to a number of chains of balances extending to a distance of 3804 feet, more than nine-tenths of the impelling power are destroyed.

By a few changes upon the construction of the machine, the water might have been raised from the river to the tower without any intermediate reservoirs. This appears from two experiments made upon the machine in 1738 and 1775. In 1738 M. Camus attempted to raise the water to the tower at once. He was able, however, only to bring it to the bottom of the tower which was considerably higher than the second reservoir. By this experiment the machine was so much strained that several parts required chains to secure it. In 1775 the water was elevated to the second reservoir at one jet at different times, but from the age and infirmity of the pipes several of them burst during the experiment. Hence it is obvious that if the pipes had been made stronger, the first reservoir and the machinery connected with it might have been dispensed with; and it is very probable that if the machine had been constructed with more judgement, the water might have been conducted at once from the river to the tower.

MARMALADE, a confection of plums, apricots, quinces, &c. boiled up to a consistence with sugar. In Scotland, it is made of Seville oranges and sugar only.

MARMANDE, a town of France, in the department of Lot and Garonne. It carries on a great trade in corn and wine, and is seated on the river Garonne, in E. Long. 0 15. N. Lat. 44. 20.

MARMOR. See MARBLE.

MARMORA, the name of four islands of Asia, in the sea of the same name. The largest is about 30 miles in circumference; and the soil of them all produces corn, wine, and fruits. The sea of Marmora is a large gulf, which communicates both with the Archipelago and the Black sea by that of Constantinople, being 120 miles in length and 50 in breadth; and all ships must pass through it that sail to Constantinople from the Mediterranean. It was anciently the *Propontis*.

MARMORICA, a country of Africa anciently inhabited by the Libyans. It was bounded on the east by Egypt, on the west by Cyrenaica, on the south by Sahara, or the desert of Libya Interior, and on the north by the Mediterranean; and was reckoned a part of Egypt. There is no distinct history of the country.

MAROBUDUN, in *Ancient Geography*, the royal residence of Maroboduus, king of the Marcomanni; and hence the appellation. Now thought to be *Prague*, the capital of Bohemia.

MAROLLES, MICHEL DE, born in 1600, was the son of Claude de Marolles, whom French memoirs make a military hero. Michel, however, was of a

different composition. He entered early into the ecclesiastical state, and by the interest of his father obtained two abbeys. He was formed with an extreme ardour for study, which never abated all his life long: for, from 1619 when he published a translation of Lucan, to 1681 the year of his death, he was constantly employed in writing and printing. He attached himself unfortunately to the translating of ancient Latin writers: but, being devoid of all classical taste and spirit, they sunk miserably under his hands, the poets especially. He was certainly, however, a man of great learning, and discovered all his life a love for the arts. He was one of the first who paid any attention to prints; and collected about 100,000, which make at this day one of the ornaments of the French king's cabinet. He composed memoirs of his own life, which were published by the abbé Goujet, 1755, in 3 vols. They contain, like such sort of things, some interesting facts, but an infinity of minute and insipid nothings.

MARONITES, in ecclesiastical history, a sect of eastern Christians, who follow the Syrian rite, and are subject to the pope; their principal habitation being on Mount Libanus.

Mosheim informs us, that the doctrine of the Monothelites, condemned and exploded by the council of Constantinople, found a place of refuge among the Mardaites, a people who inhabited the mounts Libanus and Antilibanus, and who, about the conclusion of the seventh century, were called *Maronites*, after *Maro* their first bishop; a name which they still retain. None (he says) of the ancient writers give any certain account of the first person who instructed these mountaineers in the doctrine of the Monothelites: it is probable, however, from several circumstances, that it was John Maro, whose name they had adopted; and that this ecclesiastic received the name of Maro from his having lived in the character of a monk in the famous convent of St Maro, upon the borders of the Orontes, before his settlement among the Mardaites of Mount Libanus. One thing is certain, from the testimony of Tyrius and other unexceptionable witnesses, as also from the most authentic records, viz. that the Maronites retained the opinions of the Monothelites until the 12th century, when, abandoning and renouncing the doctrine of one will in Christ, they were readmitted in the year 1182 to the communion of the Roman church. The most learned of the modern Maronites have left no method unemployed to defend their church against this accusation; they have laboured to prove, by a variety of testimonies, that their ancestors always persevered in the Catholic faith, in their attachment to the Roman pontiff, without ever adopting the doctrine of the Monophysites, or Monothelites. But all their efforts are insufficient, to prove the truth of these assertions to such as have any acquaintance with the history of the church and the records of ancient times; for to all such the testimonies they allege will appear absolutely fictitious and destitute of authority.

Faustus Nairon, a Maronite settled at Rome, has published an apology for Maro and the rest of his nation. His tenet is, that they really took their name from the Maro who lived about the year 400, and of whom mention is made in Chrysofom, Theodoret, and

Maronites.



Maronites,  
Maroon.

and the Menologium of the Greeks. He adds, that the disciples of this Maro spread themselves throughout all Syria; that they built several monasteries, and, among others, one that bore the name of their leader; that all the Syrians who were not tainted with heresy took refuge among them; and that for this reason the heretics of those times called them Maronites.

Mosheim observes, that the subjection of the Maronites to the spiritual jurisdiction of the Roman pontiff was agreed to with this express condition, that neither the popes nor their emissaries should pretend to change or abolish any thing that related to the ancient rites, moral precepts, or religious opinions, of this people: so that in reality there is nothing to be found among the Maronites that favours of popery, if we except their attachment to the Roman pontiff, who is obliged to pay very dear for their friendship. For, as the Maronites live in the utmost distress of poverty, under the tyrannical yoke of the Mahometans, the bishop of Rome is under the necessity of furnishing them with such subsidies as may appease their oppressors, procure a subsistence for their bishop and clergy, provide all things requisite for the support of their churches, and the uninterrupted exercise of public worship, and contribute in general to lessen their misery. It is certain that there are Maronites in Syria who still behold the church of Rome with the greatest aversion and abhorrence; nay, what is still more remarkable, great numbers of that nation residing in Italy, even under the eye of the pontiff, opposed his authority during the last century, and threw the court of Rome into great perplexity. One body of these nonconforming Maronites retired into the valleys of Piedmont, where they joined the Waldenses; another, above 600 in number, with a bishop and several ecclesiastics at their head, fled into Corsica, and implored the protection of the republic of Genoa against the violence of the inquisitors.

The Maronites have a patriarch, who resides in the monastery of Cannubin, on Mount Libanus, and assumes the title of patriarch of Antioch, and the name of Peter, as if he seemed desirous of being considered as the successor of that apostle. He is elected by the clergy and the people, according to the ancient custom; but, since their reunion with the church of Rome, he is obliged to have a bull of confirmation from the pope. He keeps a perpetual celibacy, as well as the rest of the bishops his suffragans: as to the rest of the ecclesiastics, they are allowed to marry before ordination; and yet the monastic life is in great esteem among them. Their monks are of the order of St Anthony, and live in the most obscure places in the mountains, far from the commerce of the world.

As to their faith, they agree in the main with the rest of the eastern church. Their priests do not say mass singly; but all say it together, standing round the altar. They communicate in unleavened bread; and the laity have hitherto partaken in both kinds, though the practice of communicating in one has of late been getting footing, having been introduced by little and little. In Lent they eat nothing, unless it be two or three hours before sunrise: their other fastings are very numerous.

To MAROON, to put one or more sailors ashore upon a desolate island, under pretence of their having

committed some great crime. This detestable expedient has been too often practised by some inhuman commanders of ships.

MAROT, CLEMENT, the best French poet of his time, was born at Cahors in 1495; and was the son of John Marot, valet de chambre to Francis I. and poet to Queen Anne of Brittany. He enjoyed his father's place of valet de chambre to Francis I. and was page to Margaret of France wife to the duke of Alençon. In 1521 he followed that prince into Italy, and was wounded and taken prisoner at the battle of Pavia; but at his return to Paris was accused of heresy, and thrown into prison, from whence he was delivered by the protection of King Francis I. He at length retired to the queen of Navarre, then to the duchess of Ferrara, and in 1536 returned to Paris: but declaring openly for the Calvinists, he was obliged to fly to Geneva; which he at length left, and retiring to Piedmont, died at Turin in 1544, aged 50. His verses are agreeably filled with natural beauties. La Fontaine acknowledged himself his disciple, and contributed greatly to restore to vogue the works of this ancient poet. Marot, besides his other works, has translated part of the Psalms into verse, which was continued by Beza, and are still sung in the Protestant churches abroad.—*Michael Marot*, his son, was also the author of some verses; but they are not comparable to those of *John*, and much less to those of *Clement Marot*.—The works of the three *Marots* were collected and printed together at the Hague in 1731, in 3 vols. 4to, and in 6 vols. 12mo.

MARPURG, a strong and considerable town of Germany, in the Upper Rhine, and in the landgrate of Hesse Cassel, with an university, a castle, a palace, a handsome square, and a magnificent townhouse. It is seated on the river Lohn, in a pleasant country, 15 miles south of Waldeck, and 47 south-east of Cassel. E. Long. 8. 53. N. Lat. 50. 42.

MARPURG, a handsome town of Germany, in Lower Styria, seated on the river Drave, 25 miles south-west of Gratz, and 60 north-east of Laubach. E. Long. 16. 10. N. Lat. 46. 42.

MARQUARD, FREHER, an eminent German civilian, born at Augsburg in 1565. He studied at Bourges, under the learned Cujas; and acquired great skill in polite literature, and in the laws. At his return to Germany, he became counsellor to the elector Palatine, and professor of law at Heidelberg; and was afterwards sent by the elector Frederic IV. as his minister, into Poland, to Mentz, and several other courts. He died at Heidelberg in 1614. He wrote many works which are esteemed; the principal of which are, 1. *De re monetaria veterum Romanorum, et hodierni apud Germanos imperii*. 2. *Rerum Bohemicarum scriptores*. 3. *Rerum Germanicarum scriptores*. 4. *Corpus historie Francie, &c.*

MARQUE, or *Letters of MARQUE*, in military affairs, are letters of reprisal, granting the subjects of one prince or state liberty to make reprisals on those of another.—They are so called from the German *marcke* "limit, frontier;" as being *jus concessum in alterius principis marchas seu limites transeundi, sibi que jus faciendi*; as being a right of passing the limits or frontiers of another prince, and doing one's self justice.

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Marque.



*Marquesas.* Letters of marque among us are extraordinary commissions granted by authority for reparation to merchants taken and despoiled by strangers at sea; and reprisals is only the retaking, or taking of one thing for another\*. The form in these cases is, the sufferer must first apply to the lord privy-seal, and he shall make out letters of request under the privy-seal; and if, after such request of satisfaction made, the party required do not, within convenient time, make due satisfaction or restitution to the party grieved, the lord chancellor shall make him out letters of marque under the great seal; and by virtue of these he may attack and seize the property of the aggressor nation, without hazard of being condemned as a robber or pirate.

\* See *Pre-regative.*

**MARQUESAS ISLANDS**, the name of certain islands in the South sea, lying between 8 and 10 degrees of south latitude, and between 139 and 140 degrees of west longitude. They are five in number, viz. La Magdalena, St Pedro, La Dominica, Santa Christina, and Hood island. All the natives of these islands may be supposed to be of the same tribe. Those spots that are fit for culture are very populous; but as every island is very mountainous, and has many inaccessible and barren rocks, it is to be doubted whether the whole population of this group amounts to 50,000 persons. The Spaniards, who first visited here, found the manners of this people gentle and inoffensive; but these qualities did not prevent those who landed from wantonly butchering several of the natives at Magdalena.

The inhabitants of these islands collectively, says Captain Cook, are, without exception, the finest race of people in the South sea. For symmetry of shape, and regular features, they perhaps surpass all other nations. Not a single deformed or ill-proportioned person was seen on the island; all were strong, tall, well-limbed, and remarkably active. The men are about five feet ten or six feet high: their teeth are not so good, nor are their eyes so full and lively, as those of many other nations: their hair is of many colours, but none red; some have it long, but the most general custom is to wear it short, except a bunch on each side the crown, which they tie in a knot: their countenances are pleasing, open, and full of vivacity: they are of a tawny complexion, which is rendered almost black by punctures over the whole body. They were entirely naked, except a small piece of cloth round their waist and loins. The punctures were disposed with the utmost regularity, so that the marks on each leg, arm, and cheek, were exactly similar. The women, in two days time, began to appear in considerable numbers, and the sailors found them not less kind than those of the other islands which they had visited: they were inferior to the men in stature, but well proportioned: their general colour was brown; no punctures were observed upon them; they wore a single piece of cloth made of the mulberry bark, which covered them from the shoulders to the knees.

The principal head dress used in the islands, and what appears to be their chief ornament, is a sort of broad fillet, curiously made of the fibres of the husks of cocoa nuts; in the front is fixed a mother-of-pearl shell, wrought round to the size of a tea-saucer; before that another smaller, of very fine tortoiseshell, perforated into curious figures; also before, and in the centre of that, is

another round piece of mother-of-pearl, about the size *Marquesas.* of half a crown; and before this another piece of perforated tortoiseshell, the size of a shilling. Besides this decoration in front, some have it also on each side, but in small pieces; and all have fixed to them the tail feathers of cocks, or tropic birds, which, when the fillet is tied on, stand upright, so that the whole together makes a very sprightly ornament. They wear round the neck a kind of ruff or necklace made of light wood, the outward and upper sides covered with small pease, which are fixed on with gum; they also wear some bunches of human hair fastened to a string, and tied round the legs and arms. But all the above ornaments are seldom seen on the same person. All these ornaments, except the last, they freely parted with for a trifling consideration; but the human hair they valued very highly, though these bunches were the usual residence of many vermine. It is probable, that these were worn in remembrance of their deceased relations, and therefore were looked upon with some veneration; or they may be the spoils of their enemies, worn as the honourable testimonies of victory. However, a large nail, or something which struck their eyes, commonly got the better of their scruples. The king, or chief of the island, came to visit Captain Cook: he was the only one seen completely dressed in this manner. Their ordinary ornaments are necklaces, and amulets made of shells, &c. All of them had their ears pierced, though none were seen with ear-rings. The king had not much respect paid him by his attendants: he presented Captain Cook with some fruit and hogs; and acquainted him that his name was *Honoo*, and that he was *he-ka-ai*, which title seems to correspond with the *aree* of Otaheite, and *arekee* of the Friendly isles. Their dwellings are in the valleys, and on the sides of the hills near their plantations. They are built in the same manner as those at Otaheite, which will be particularly described when we speak of that island; but they are much meaner, and are only covered with the leaves of the bread-fruit tree: in general, they are built on a square or oblong pavement of stone, raised some height above the level of the ground; they likewise have such pavement near their houses, on which they sit to eat and amuse themselves. Along the uppermost edge of the mountain a row of stakes or palisades, closely connected together, were seen like a fortification, in which, by the help of glasses, appeared something like huts, which seemed to bear a great resemblance to the hip-pas of New Zealand, which will be described in speaking of that country. Their canoes resemble those of Otaheite, but not so large; their heads had commonly some flat upright piece, on which the human face was coarsely carved; and their sails were made of mats, triangular in shape, and very broad at the top: the paddles which they used were of heavy hard wood; short, but sharp pointed, and with a knob at the upper end; they were from 10 to 22 feet long, and about 15 inches broad.

Their weapons were all made of the club wood, or casuarina; and were either plain spears about 8 or 10 feet long, or clubs which commonly had a knob at one end. They have also slings with which they throw stones with great velocity, and to a great distance, but not with a good aim.

The



*Marquesas.* The language of these people is much nearer to that of Otaheite than any other dialect in the South sea, except that they could not pronounce the letter *r*.

The only quadrupeds seen here were hogs, except rats; here were fowls, and several small birds in the woods, whose notes were very melodious. The chief difference between the inhabitants of the Marquesas and those of the Society islands seems to consist in their different degrees of cleanliness: the former do not bathe two or three times a-day, nor wash their hands and face before and after every meal, as the latter do; and they are besides very slovenly in the manner of preparing their meals. Their diet is chiefly vegetable; though they have hogs and fowls, and catch abundance of fish at certain times. Their drink is pure water, cocoa nuts being scarce here.

It was not long before the propensity of the natives was discovered to be rather to receive than give; for when they had taken a nail as the price of a bread-fruit, the article so purchased could not be obtained from them. To remove this dishonest disposition, Captain Cook ordered a musket to be fired over their heads, which terrified them into fair dealing.

Soon after the natives had gathered courage enough to venture on board the ship, one of them unfortunately stole an iron stanchion from the gangway, with which he sprang into the sea, and, notwithstanding its weight, swam with it to his canoe, and was making to the shore with all speed. A musket was fired over his head to frighten him back, but to no effect, he still continued to make off with his booty; the whistling of another ball over his head was as ineffectual: an officer, less patient of such an injury than reason and humanity should have taught him to be, levelled a musket at the poor fellow, and shot him through the head. Captain Cook had given orders to fire *over* the canoe, but not to kill any one; he was in a boat, and came up with the canoe soon after. There were two men in her: one sat bailing out the blood and water in a kind of hysterical laugh; the other, a youth of about 14 or 15 years of age, who afterwards proved to be the son of the deceased, fixed his eyes on the dead body with a serious and dejected countenance. This act of severity, however, did not estrange the islanders to the ship, and a traffic was carried on to the satisfaction of both parties; bread-fruit, bananas, plantains, and some hogs, were given in exchange for small nails, knives, and pieces of Amsterdam cloth; red feathers of the Amsterdam island were greatly esteemed here. Captain Cook, accompanied with the gentlemen of the ship, in their walks about the country, lighted on the house which had been the habitation of the man who had been shot; there they found his son, who fled at their approach: they inquired for his female relations, and were told that they remained at the top of the mountain, to weep and mourn for the dead. Notwithstanding they were then among the relations of a man who had been killed by them, not the least tokens of animosity or revenge were discernible among the natives.

The weather being extremely hot, the inhabitants made use of large fans to cool themselves, of which great numbers were purchased: the fans were formed of a kind of tough bark, or grass, very firmly and curiously plaited, and frequently whitened with

shell-lime. Some had large feathered leaves of a kind of palm, which answered the purpose of an umbrella.

The natives at length became so familiar as to mount the sides of the ship in great numbers. They frequently danced upon the decks for the diversion of the sailors: their dances very much resembled those of Otaheite; their music too was very much the same.

A sailor having been inattentive to his duty, received several blows from Captain Cook; on seeing which, the natives exclaimed *tape-a hei-te tina*, "he beats his brother." From other instances that had occurred, it was clear that they knew the difference between the commander and his people, but at the same time they conceived them all brethren; and, says Mr Forster, "to me the most natural inference is, that they only applied an idea to us in this case, which really existed with regard to themselves; they probably look on themselves as one family, of which the eldest born is the chief or king."

**MARQUETRY, INLAID WORK;** a curious kind of work, composed of pieces of hard fine wood of different colours, fastened, in thin slices, on a ground, and sometimes enriched with other matters, as tortoise-shell, ivory, tin, and brass.

There is another kind of marquetry made, instead of wood, of glasses of various colours; and a third, where nothing but precious stones and the richest marbles are used: but these are more properly called *mosaic work*. See **MOSAIC**.

The art of inlaying is very ancient; and is supposed to have passed from the east to the west, as one of the spoils brought to the Romans from Asia. Indeed it was then but a simple thing; nor did it arrive at any tolerable perfection till the 15th century among the Italians: it seems, however, to have arrived at its height in the 17th century among the French.

Till John of Verona, a cotemporary with Raphael, the finest works of this kind were only black and white, which are what we now call *Morescos*; but that religious, who had a genius for painting, stained his woods with dyes or boiled oils, which penetrated them. But he went no farther than the representing buildings and perspectives, which requires no great variety of colours. Those who succeeded him, not only improved on the invention of dyeing the woods, by a secret which they found of burning them without consuming, which served exceedingly well for the shadows; but had also the advantage of a number of fine new woods of naturally bright colours, by the discovery of America. With these assistances the art is now capable of imitating any thing; whence some call it the *art of painting in wood*.

The ground whereon the pieces are to be ranged and glued, is ordinarily of oak or fir well dried; and to prevent warping, is composed of several pieces glued together. The wood to be used, being reduced into leaves, of the thickness of a line, is either stained with some colour, or made black for shadow; which some effect by putting it in sand extremely heated over the fire, others by steeping it in lime water and sublimate, and others in oil of sulphur.—Thus coloured, the contours of the piece are formed according to the parts of the design they are to represent.

This



Marquis.

This last is the most difficult part of marquetry, and that wherein most patience and attention are required. The two chief instruments used herein are the saw and the vice; the one to hold the matters to be formed; the other, to take off from the extremes, according to occasion. The vice is of wood, having one of its chaps fixed; the other moveable, and is opened and shut by the foot, by means of a cord fastened to a treadle. Its structure is very ingenious, yet simple enough.

The leaves to be formed (for there are frequently three or four of the same kind formed together) are put within the chaps of the vice, after being glued on the outermost part of the design whose profile they are to follow; then the workman pressing the treadle, and thus holding fast the piece, with his saw runs over all the outlines of the design.—By thus joining and forming three or four pieces together, they not only gain time, but the matter is likewise the better enabled to sustain the efforts of the saw; which, how delicate soever it may be, and how lightly soever the workman may conduct it, without such a precaution would be apt to raise splinters, to the ruin of the beauty of the work.

When the work is to consist of one single kind of wood, or of tortoise-shell, on a copper or tin ground, or *vice versa*, they only form two leaves on one another, *i. e.* a leaf of metal, and a leaf of wood or shell: this they call *sawing in counter parts*; for by filling the vacancies of one of the leaves by the pieces coming out of the other, the metal may serve as a ground to the wood, and the wood to the metal.

All the pieces thus formed with the saw, and marked to know them again, and the shadow given in the manner already mentioned; they venter or fasten each in its place on the common ground; using for that purpose the best English glue.

The whole is put in a press dry, planed over, and polished with the skin of the sea-dog, wax, and shave-grass, as in simple veneering; with this difference, however, that in marquetry the fine branches, and several of the more delicate parts of the figures, are touched up and finished with a graver.

It is the cabinetmakers, joiners, and toymen, among us who work in marquetry; it is the enamellers and stone-cutters who deal in mosaic works: the instruments used in the former are mostly the same with those used by the ebonists.

MARQUIS, a title of honour, next in dignity to that of duke. His office is to guard the frontiers and limits of the kingdom, which were called the *marches*, from the Teutonic word *marche*, a "limit:" as, in particular, were the marches of Wales and Scotland while they continued hostile to England. The persons who had command there, were called *lords marchers*, or *marquesses*; whose authority was abolished by statute 27 Hen. VIII. c. 27. though the title had long before been made a mere design of honour, Robert Vere earl of Oxford being created marquis of Dublin by Richard II. in the eighth year of his reign. A marquis is created by patent; his mantle is double ermine, three doublings and a half; his title is *most honourable*; and his coronet has pearls and strawberry leaves intermixed round, of equal height.

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MARR, that part of Aberdeenshire situated between the rivers Dee and Don.

MARRACCI, LEWIS, a learned Italian, was born at Lucca in Tuscany in 1612. After having finished his juvenile studies, he entered into the congregation of regular clerks of the mother of God, and distinguished himself early by his learning and merit. He taught rhetoric seven years, and passed through several offices of his order. He applied himself principally to the study of languages, and attained of himself the knowledge of the Greek, the Hebrew, the Syriac, the Chaldee, and Arabic; which last he taught some time at Rome, by the order of Pope Alexander VII. Pope Innocent XI. chose him for his confessor, and placed great confidence in him. He would have advanced him to ecclesiastical dignities, if Marracci had not opposed him.—Marracci died at Rome in 1700, aged 87.—He was the author of several pieces in Italian; but the grand work, which has made him deservedly famous all over Europe, is his edition of the Alkoran, in the original Arabic, with a Latin version, notes, and confutation of his own. It was beautifully printed in two vols. folio at Padua in 1698. The Latin version of the Alkoran, by Marracci, with notes and observations from him and others, and a synopsis of the Mahometan religion, by way of introduction, was published by Heineccius at Leipzig, 1721, in 8vo. Marracci had also a hand in the "Biblia sacra Arabica, sacrae congregationis de propaganda fide jussu edita, ad usum ecclesiarum orientalium," *Roma*, 1671, in 3 vols. folio.

MARRIAGE, a contract, both civil and religious, between a man and a woman, by which they engage to live together in mutual love and friendship for the ends of procreation, &c. See *MORAL Philosophy*.

Marriage is part of the law of nations, and is in use among all people. The Romanists account it a sacrament.—The woman, with all her moveable goods, immediately upon marriage, passes wholly *in potestatem viri*, into the power and disposal of the husband."

The first inhabitants of Greece lived together without marriage. Cecrops, king of Athens, is said to have been the first author of this honourable institution among that people. After the commonwealths of Greece were settled, marriage was very much encouraged by their laws, and the abstaining from it was discountenanced and in many places punished. The Lacedemonians were very remarkable for their severity towards those who deferred marriage beyond a limited time, as well as to those who wholly abstained from it. The Athenians had an express law, that all commanders, orators, and persons intrusted with any public affair, should be married men. Polygamy was not commonly tolerated in Greece. The time of marriage was not the same in all places. The Spartans were not permitted to marry till they arrived at their full strength; the reason assigned for which custom by Lycurgus was, that the Spartan children might be strong and vigorous; and the Athenian laws are said to have once ordered, that men should not marry till 35 years of age. The season of the year which they preferred for this purpose was the winter, and particularly the month of January, called *Gamelion*. The Greeks

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Marriage.



Marriage. thought it scandalous to contract marriage within certain degrees of consanguinity; whilst most of the barbarous nations allowed incestuous mixtures.

Most of the Grecian states, especially such as made any figure, required their citizens should match with none but citizens, and the children were not allowed to marry without the consent of their parents. The usual ceremony in promising fidelity was kissing each other, or giving their right hands, which was a general form of ratifying all agreements. Before the marriage could be solemnized, the gods were to be consulted, and their assistance implored by prayers and sacrifices, which were offered to some of the deities that superintended these affairs, by the parents or nearest relations of the persons to be married. When the victim was opened, the gall was taken out and thrown behind the altar, as being the seat of anger and malice, and therefore the aversion of all the deities who had the care of love, as well as those who became their votaries. For the particularities relating to the bride and bridegroom, see BRIDE and BRIDE-GROOM.

The Romans, as well as the Greeks, disallowed of polygamy. A Roman might not marry any woman who was not a Roman. Among the Romans, the kalends, nones, and ides of every month were deemed unlucky for the celebration of marriage, as was also the feast of the *parentalia*, and the whole month of May. The most happy season in every respect was that which followed the ides of June.

The Roman laws speak of second marriages in very hard and odious terms: *Matre jam secundis nuptiis funestata*, L. iii. C. de sec. nuptiis. By these laws it was enacted, that the effects of the husband or wife deceased should pass over to the children, if the survivor should marry a second time. By the law *Hac edictali* (Cod. de sec. nupt.), the survivor, upon marrying a second time, could not give the person he married a portion more than equal to that of each of the children. In the primitive church the respect to chastity was carried so high, that a second marriage was accounted no other than a lawful whoredom, or a species of bigamy; and there are some ancient canons which forbid the ecclesiastics from being present at second marriages.

Marriage, by the Mosaic law, was subject to several restrictions: thus by Levit. chap. xviii. ver. 16. a man was forbid to marry his brother's widow unless he died without issue; in which case it became enjoined as a duty. So it was forbid to marry his wife's sister, while she was living, ver. 18.; which was not forbidden before the law, as appears from the instance of Jacob.

The ancient Roman law is silent on this head; and Papinian is the first who mentions it, on occasion of the marriage of Caracalla. The lawyers who came after him stretched the bonds of affinity so far, that they placed adoption on the same foot with nature.

Affinity, according to the modern canonists, renders marriage unlawful to the fourth generation, inclusive; but this is to be understood of direct affinity, and not of that which is secondary or collateral. *Affinis mei affinis, non est affinis meus*. It is farther to be observed, that this impediment of marriage does not only follow an affinity contracted by lawful matrimony, but also that

contracted by a criminal commerce; with this difference, that this last does extend beyond the second generation; whereas the other, as has been observed, reaches to the fourth.

In Germany they have a kind of marriage called *morganatic*, wherein a man of quality contracting with a woman of inferior rank, he gives her the left hand in lieu of the right; and stipulates in the contract that the wife shall continue in her former rank or condition; and that the children born of them shall be of the same, so that they become bastards as to matters of inheritance, though they are legitimate in effect. They cannot bear the name or arms of the family. None but princes and great lords of Germany are allowed this kind of marriage. The universities of Leipzig and Jena have declared against the validity of such contracts; maintaining that they cannot prejudice the children, especially when the emperor's consent intervenes in the marriage.

The Turks have three kinds of marriages, and three sorts of wives; *legitimate*, *wives in kebin*, and *slaves*. They marry the first, hire the second, and buy the third.

Among all the savage nations, whether in Asia, Africa, or America, the wife is commonly bought by the husband from her father or those other relations who have an authority over her; and the conclusion of a bargain for this purpose, together with the payment of the price, has therefore become the usual form or solemnity in the celebration of their marriages. The Hebrews also purchased their wives by paying down a competent dowry for them; and Aristotle makes it one argument to prove that the ancient Grecians were an uncivilized people, because they used to buy their wives; and in proportion as they laid aside their barbarous manners they left off this practice.

The English law considers marriage in no other light than as a civil contract; the holiness of the matrimonial state being left entirely to the ecclesiastical law, to which it pertains, to punish or annul incestuous or other unscriptural marriages. The law allows marriage to be good and valid, where the parties at the time of making it were willing and able to contract, and actually did contract, in the proper forms and solemnities required by law. The disabilities for contracting are of two sorts: first, such as are canonical, and therefore sufficient by the ecclesiastical laws to void the marriage in the spiritual court; such as pre-contract, consanguinity or relation by blood; and affinity, or relation by marriage, and some particular corporal infirmities. But these disabilities in our law do not make the marriage *ipso facto* void, but voidable only by sentence of separation; and marriages are esteemed valid to all civil purposes, unless such separation is actually made during the life of the parties. Thus when a man had married his first wife's sister, and after her death the bishop's court was proceeding to annul the marriage and bastardise the issue, the court of king's bench granted a prohibition *quoad hoc*; but permitted them to proceed to punish the husband for incest.

By 32 Hen. VIII. c. 38. it is declared, that all persons may lawfully marry but such as are prohibited by God's law, &c. And that nothing (God's law excepted) shall impeach any marriage but within the Levitical degrees: these are enumerated in the 18th



**Marriage.** chapter of Leviticus, and are illustrated by Lord Coke in this manner: a man may not marry his mother, father's sister, mother's sister, sister, daughter, daughter of his son or daughter, father's wife, uncle's wife, father's wife's daughter, brother's wife, wife's sister, son's wife or wife's daughter, and daughter of his wife's son or daughter. And a woman may not marry her father, father's brother, mother's brother, brother, son, son of her husband's son or daughter, mother's husband, aunt's husband, sister's husband, husband's brother, and son of her husband's son or daughter. By the civil law first cousins are allowed to marry; but by the canon law both first and second cousins are prohibited. Therefore when it is vulgarly said that first cousins may marry but second cousins cannot, this probably arose by confounding these two laws; for first cousins may marry by the civil law, and second cousins cannot by the canon law. But by the fore-said stat. 32 Hen. VIII. c. 38. it is clear, that both first and second cousins may marry. By the same statute all impediments arising from precontracts to other persons were abolished, and declared of none effect unless they had been consummated with bodily knowledge; in which case the canon law holds such contract to be a marriage *de facto*. But this branch of the statute was repealed by 2 and 3 Ed. VI. c. 23. How far the act of 26 Geo. II. c. 33. (which prohibits all suits in ecclesiastical courts to compel a marriage in consequence of any contract) may collaterally extend to revive this clause of Henry VIII.'s statute, and abolish the impediment of precontract, Judge Blackstone leaves to be considered by the canonists. We shall here observe, that on a promise of marriage, if it be mutual on both sides, damages may be recovered in case either party refuses to marry; and though no time for the marriage is agreed on, if the plaintiff avers that he offered to marry the defendant who refused it, an action is maintainable for the damages; but no action shall be brought upon any agreement except it is in writing, and signed by the party to be charged. The canonical hours for celebrating marriage are from 8 to 12 in the forenoon.

The other sort of disabilities are those which are created, or at least enforced, by the municipal laws. These civil disabilities make the contract void *ab initio*, by rendering the parties incapable of forming any contract at all. The first legal disability is a prior marriage, or having another husband or wife living; in which case, besides the penalties consequent upon it as a felony, the second marriage is to all intents and purposes void. See **BIGAMY** and **POLYGAMY**.

The next legal disability is want of age: therefore if a boy under 14, or a girl under 12 years of age, marries, when either of them comes to the age of consent, they may disagree and declare the marriage void, without any divorce or sentence in the spiritual court. However, in our law it is so far a marriage, that if at the age of consent they agree to continue together, they need not be married again. Another incapacity arises from want of consent of parents or guardians. By several statutes, viz. 6 and 7 W. III. c. 6, 7, 8. W. III. c. 35. 10 Ann. c. 19. penalties of 100*l.* are laid on every clergyman who marries a couple either without publication of banns, which may give notice to parents or guardians, or without a license, to ob-

tain which the consent of parents or guardians must be sworn to. And by 4 and 5 Ph. and M. c. 8. whoever marries any woman child under the age of 16 years, without consent of parents or guardians, shall be subject to fine or five years imprisonment; and her estate during her husband's life shall be enjoyed by the next heir. Thus also in France the sons cannot marry without consent of parents till 30 years of age, nor the daughters till 25; and in Holland the sons are at their own disposal at 25, and the daughters at 20. And by the marriage act, viz. 26 Geo. II. c. 33. it is enacted, that all marriages celebrated by license (for banns suppose notice), where either of the parties is under 21, not being a widow or widower, without the consent of the father, or if he be not living, of the mother or guardians, shall be absolutely void. However, provision is made where the mother or guardian is *non compos*, beyond fear, or unreasonably froward, to dispense with such consent at the discretion of the lord chancellor; but no provision is made in case the father should labour under any mental or other incapacity. A fourth incapacity is want of reason. It is provided by 15 Geo. II. c. 30. that the marriage of lunatics and sons under phrenesies (if found lunatics under a commission or committed to the care of trustees by any act of parliament) before they are declared of sound mind by the lord chancellor, or the majority of such trustees, shall be totally void. Lastly, The parties must not only be willing and able to contract, but must actually contract themselves in due form of law, to make it a good civil marriage. Any contract made *per verba de presentis*, or in words of the present tense, and in case of cohabitation *per verba de futuro* also between persons able to contract, was before the late act deemed a valid marriage to many purposes, and the parties might be compelled in the spiritual courts to celebrate it *in facie ecclesie*. But these verbal contracts are now of no force to compel a future marriage. Nor is any marriage at present valid that is not celebrated in some parish church, or public chapel, unless by dispensation from the archbishop of Canterbury. It must also be preceded by publication of banns or by license from the spiritual judge. A marriage in pursuance of banns must be solemnized in one of the churches or chapels where the banns were published. No parson, vicar, &c. shall be obliged to publish banns of matrimony, unless the persons to be married shall, seven days before the time required for the first publication, deliver to him a notice in writing of their true names, and of the house or houses of their respective abode within such parish, &c. and of the time that they have dwelt in such house or houses. And the said banns shall be published upon three Sundays preceding the solemnization of marriage during the time of public service: in case the parents or guardians, or either of the parties who shall be under the age of 21 years, shall openly and publicly declare, or cause to be declared, in the church or chapel where the banns shall be so published, at the time of such publication, their dissent to such marriage, such publication of banns shall be void. And when the parties dwell in divers parishes, the curate of the one parish shall not solemnize matrimony betwixt them without a certificate of the banns being thrice asked from the curate



Marriage. of the other parish. A marriage in pursuance of a license (except a special license), must be solemnized in such church or chapel where the license is granted; and no license of marriage shall be granted by any archbishop, bishop, &c. to solemnize any marriage in any other church, &c. than in the parish church, &c. within which the usual place of abode of one of the parties shall have been for four weeks immediately before the granting such license. By the same statute all marriages shall be solemnized in the presence of two credible witnesses at the least, besides the minister, who shall sign their attestation thereof; and immediately after the celebration of every marriage, an entry thereof shall be made in the parish register, expressing that the said marriage was celebrated by banns or license; and if both or either of the parties be under age, with consent of the parents or guardians, as the case shall be, signed by the minister, and also by the parties married, and attested by the two witnesses present. It is held to be also essential to a marriage, that it be performed by a person in orders; though the intervention of a priest to solemnize this contract is merely *juris positivi* and not *juris naturalis aut divini*; it being said that Pope Innocent III. was the first who ordained the celebration of marriage in the church, before which it was totally a civil contract. And in the times of the grand rebellion, all marriages were performed by the justices of the peace; and these marriages were declared valid without any fresh solemnization, by 12 Car. II. c. 33. But as the law now stands, we may upon the whole collect, that no marriage by the temporal law is *ipso facto* void, that is celebrated by a person in orders; in a parish church, a public chapel, or elsewhere, by a special dispensation; in pursuing of banns or a license; between single persons; consenting; of sound mind; and of the age of 21 years; or of the age of 14 in males and 12 in females, with consent of parents or guardians, or without it, in case

of widowhood. And no marriage is voidable by the ecclesiastical law after the death of either of the parties; nor during their lives, unless for the canonical impediments of precontract, if that indeed still exists; of consanguinity; and of affinity or corporal imbecility subsisting previous to the marriage.

By 26 Geo. II. c. 33. the substance of which has been already recited, if any person shall solemnize matrimony in any other place than a church, &c. where banns have been usually published, unless by special license, or without publication of banns, unless license of marriage be first obtained from some person having authority to grant the same, every such person knowingly so offending shall be guilty of felony, and transported for 14 years; the prosecution to be within three years. By the same statute, to make a false entry into a marriage register; to alter it when made; to forge or counterfeit such entry, or a marriage license, or aid and abet such forgery; to utter the same as true, knowing it to be counterfeit; or to destroy or procure the destruction of any register in order to vacate any marriage, or subject any person to the penalties of this act; all these offences, knowingly and wilfully committed, subject the party to the guilt of felony without benefit of clergy. But this act doth not extend to the marriages of the royal family; nor to Scotland; nor to any marriages among the people called *Quakers*, or among persons professing the Jewish religion, where both the parties are *Quakers* or Jews respectively; nor to any marriages beyond the seas.

In Scotland, the parties living together as husband and wife, or declaring themselves so before witnesses, makes a valid though informal marriage. See LAW, Part III. N<sup>o</sup> 160.

For the proportions which marriages bear to births, and births to burials, in several parts of Europe, Mr Derham gives us the following table.

Names of Places.	Marriages to Births, as	Births to Burials, as
England in general	1 to 4.63	1.12 to 1
London	1 to 4	1. to 1.1
Hantshire, from 1569 to 1658	1 to 4	1.2 to 1
Tiverton in Devonshire from 1636 to 1664	1 to 3.7	1.26 to 1
Cranbrook in Kent, from 1560 to 1649	1 to 3.9	1.6 to 1
Aynho, in Northamptonshire, for 118 years	1 to 6	1.6 to 1
Upminster in Essex, for 100 years	1 to 4.6	1.8 to 1
Franckfort on the Main, in 1695	1 to 3.7	1.2 to 1
Old, Middle, and Lower Marck, in 1698	1 to 3.7	1.9 to 1
Dominions of the elector of Brandenburg, in 1698	1 to 3.7	1.5 to 1
Bresslaw in Silesia, from 1687 to 1691	— — —	1.6 to 1
Paris, in 1670, 1671, 1672	1 to 4.7	1.6 to 1



The following TABLE, similar to the preceding, is formed from the observations collected and referred to by Dr Price.

Names of Places.	Marriages to Births, as	Births to Burials, as
London, annual medium from 1716 to 1736	— — —	18,000 to 26,529, or 1 to 1.4, &c.
— from 1759 to 1768	— — —	15,710 to 22,956, or 1 to 1.4, &c.
Northampton, ditto, from 1741 to 1770	— — —	155 to 191, or 1 to 1.2, &c.
Norwich, ditto, from 1740 to 1769	— — —	1057 to 1206, or 1 to 1.1, &c.
Shrewsbury, ditto, from 1762 to 1768	— — —	301 to 329, or 1 to 1.09, &c.
Manchester and Salford, exclusive of dissenters		
Ditto, from 1755 to 1759	— — —	756 to 743, —————
Ditto, ditto, including dissenters, from 1768 to 1772	— — —	1098 to 958, or 1.14, &c. to 1.
Gainborough in Lincolnshire, ditto, from 1752 to 1771	1 to 3.7	126 to 105, or 1.2 to 1.
Madeira, ditto, from 1759 to 1766	1 to 4.68	2201 to 1293, or 1.7 to 1.
Boston in New England, from 1731 to 1752	— — —	538 to 608, or 1 to 1.13, &c.
Christiana in Norway, in 1761	— — —	11,024 to 6929, or 1.5 to 1.
Paris, mean of some of the last years	1 to 4.3	19,100 to 19,400, or 1 to 1.01, &c.
Vienna, annual medium from 1757 to 1769	— — —	5800 to 6600, or 1 to 1.1, &c.
Amsterdam, ditto, for some of the last years	1 to 1.9, &c.	4600 to 8000, or 1 to 1.1, &c.
Copenhagen, ditto	1 to 3.04, &c.	2700 to 3300, or 1 to 1.2, &c.
Berlin, ditto, for five years, ending at 1759	1 to 3.9, &c.	3855 to 5054, or 1 to 1.3, &c.
Breslaw, ditto, from 1633 to 1734	— — —	1089 to 1256, or 1 to 1.15, &c.
—, ditto, from 1717 to 1725	— — —	1252 to 1507, or 1 to 1.2, &c.
Rome, ditto, from 1759 to 1761	— — —	5167 to 7153, or 1 to 1.3, &c.
Vaud in Switzerland, ditto, for 10 years before 1766	1 to 3.9	3155 to 2504, or 1.2, &c. to 1.

For an account of the numbers of male and female stillborn children and chrysons, and of boys and girls under ten, of married men and married women, and of widows and widowers, who died for a course of years at Vienna, Breslaw, Dresden, Leipzig, Ratisbon, and some other towns in Germany, see Phil. Trans. Abr. vol. vii. part iv. p. 46, &c.

The reader may find many curious calculations and remarks relating to this subject in Dr Price's excellent work, entitled, Observations on Reversionary Payments. From the preceding table it appears, that marriages, one with another, do each produce about four births, both in England and other parts of Europe. Dr Price observes, that the births at Paris, as may be seen in the table, are above four times the weddings; and therefore it may seem, that in the most healthy country situations, every wedding produces above four children; and though this be the case in Paris, for reasons which he has given, he has observed nothing like it in any other great town. He adds, that from comparing the births and weddings in countries and towns where registers of them have been kept, it appears, that in the former, marriages one with another seldom produce less than four children each; generally between four and five, and sometimes above five; but in towns seldom above four, generally between three and four, and sometimes under three. It is necessary to be observed here, that though the proportion of annual births to weddings has been considered as giving the true number of children derived from each marriage, taking all marriages one with another: yet this is only true, when, for many years, the births and burials have kept nearly equal. Where there is an excess of the births occasioning an increase, the proportion of annual births to weddings must be

less than the proportion of children derived from each marriage; and the contrary must take place where there is a decrease: and by Mr King's computation, about one in an hundred and four persons marry; the number of people in England being estimated at five millions and a half, whereof about forty-one thousand annually marry.

In the district of Vaud in Switzerland, the married are very nearly a third part of the inhabitants.

Major Graunt and Mr King disagree in the proportions between males and females, the latter making 10 males to 13 females in London; in other cities and towns, and in the villages and hamlets, 100 males to 99 females: but Major Graunt, both from the London and country bills, computes, that there are in England 14 males to 13 females; whence he justly infers, that the Christian religion, prohibiting polygamy, is more agreeable to the law of nature than Mahometanism and others that allow it.

This proportion of males to females Mr Denham thinks pretty just, being agreeable to what he had observed himself. In the hundred years, for instance, of his own parish-register of Upminster, though the burials of males and females were nearly equal, being 632 males and 623 females in all that time; yet there were baptized 709 males and but 675 females, which is 13 females to 13.7 males.

From a register kept at Northampton for 28 years, from 1741 to 1770, it appears, that the proportion of males to females that were born in that period is 2361 to 2288, or nearly 13.4 to 13. However, though more males are born than females, Dr Price has sufficiently shown, that there is a considerable difference between the probabilities of life among males and females in favour of the latter; so that males are more short-lived



**Marriage.** shortlived than females; and as the greater mortality of males takes place among children, as well as among males at all ages, the fact cannot be accounted for merely by their being more subject to untimely deaths by various accidents, and by their being addicted to the excesses and irregularities which shorten life. Mr Kerseboom informs us, that, during the course of 125 years in Holland, females have in all accidents of age lived about three or four years longer than the same number of males. In several towns of Germany, &c. it appears that of 7270 married persons who had died, the proportion of married men who died to the married women was 3 to 2; and in Breslaw for eight years, as 5 to 3. In all Pomerania, during nine years, from 1748 to 1756, this proportion was nearly 15 to 11. Among the ministers and professors in Scotland, 20 married men die to 12 married women at a medium of 27 years, or in the proportion of 5 to 3; so that there is the chance of 3 to 2, and in some circumstances even a greater chance, that the woman shall be the survivor of a marriage, and not the man; and this difference cannot be accounted for merely by the difference of age between husbands and their wives, without admitting the greater mortality of males. In the district of Vaud in Switzerland, it appears, that half the females do not die till the age of 46 and upwards, though half the males die under 36. It is likewise an indisputable fact, that in the beginning of life, the rate of mortality among males is much greater than among females.

From a table formed by Dr Price, from a register kept for 20 years at Gainsborough, it appears, that of those who lived to 80, the major part, in the proportion of 49 to 32, are females. Mr Deparcieux at Paris, and Mr Wargent in Sweden, have farther observed, that not only women live longer than men, but that married women live longer than single women. From some registers examined by Mr Muret in Switzerland, it appears, that of equal numbers of single and married women between 15 and 25, more of the former died than of the latter, in the proportion of 2 to 1.

With respect to the difference between the mortality of males and females, it is found to be much less in country parishes and villages than in towns; and hence it is inferred, that human life in males is more brittle than in females, only in consequence of adventitious causes, or of some particular debility, that takes place in polished and luxurious societies, and especially in great towns.

From the inequality above stated between the males and females that are born, it is reasonable to infer, that one man ought to have but one wife; and yet that every woman without polygamy may have a husband: this surplussage of males above females being spent in the supplies of war, the seas, &c. from which the women are exempt.

Perhaps, says Dr Price, it might have been observed with more reason, that this provision had in view that particular weakness or delicacy in the constitution of males, which makes them more subject to mortality; and which consequently renders it necessary that more of them should be produced, in order to preserve in the world a due proportion between the two sexes.

That this is a work of Providence, and not of change, is well made out by the very laws of chance

by Dr Arbuthnot; who supposes Thomas to lay against John, that for 82 years running more males shall be born than females; and giving all allowances in the computation to Thomas's side, he makes the odds against Thomas, that it does not so happen, to be near five millions of millions of millions of millions to one; but for ages of ages, according to the world's age, to be near an infinite number to one.

According to Mr Kerseboom's observations, there are about 325 children born from 100 marriages.

Mr Kerseboom, from his observations, estimates the duration of marriages, one with another, as in the following table.

Those whose ages, taken together, make

40, live together between	24 and 25 years.
50	22 23
60	23 21
70	19 20
80	17 18
90	14 15
100	12 13

Phil. Trans. N<sup>o</sup> 468. sect. iii. p. 319.

Dr Price has shown, that on De Moivre's hypothesis, or that the probabilities of life decrease uniformly (see *COMPLEMENT of Life*), the duration of survivorship is equal to the duration of marriage, when the ages are equal; or, in other words, that the expectation of two joint lives, the ages being equal, is the same with the expectation of survivorship; and, consequently, the number of survivors, or (which is the same, supposing no second marriages) of widows and widowers, alive together, which will arise from any given set of such marriages constantly kept up, will be equal to the whole number of marriages, or half of them (the number of widows in particular) equal to half the number of marriages. Thus, the expectation of two joint lives, both 40, is the third of 46 years, or their complement, i. e. 15 years and 4 months; and this is also the expectation of the survivor. That is, supposing a set of marriages between persons all 40, they will one with another last just this time, and the survivors will last the same time. In adding together the years which any great number of such marriages, and their survivorships, have lasted, the sums would be found to be equal. It is observed farther, that if the number expressing the expectation of single or joint lives, multiplied by the number of single or joint lives whose expectation it is, be added annually to a society or town, the sum gives the whole number living together, to which such an annual addition would in time grow: thus, since 19, or the third of 57, is the expectation of two joint lives whose common age is 29, or common complement 57, 20 marriages every year between persons of this age would in 57 years grow to 20 times 19, or 380 marriages always existing together. The number of survivors also arising from these marriages, and always living together, would in twice 57 years increase to the same number. Moreover, the particular proportion that becomes extinct every year, out of the whole number constantly existing together of single or joint lives, must, wherever this number undergoes no variation, be exactly the same with the expectation of those lives at the time when their existence commenced. Thus, if it were found



**Marriage**. found that a 19th part of all the marriages among any body of men whose numbers do not vary, are dissolved every year by the deaths of either the husband or wife, it would appear, that 19 was at the time they were contracted, the expectation of these marriages. Dr Price observes, that the annual average of weddings among the ministers and professors in Scotland for the last 27 years has been 31; and the average of married persons for 17 years ending in 1767, had been 667. This number, divided by 31, gives 21½, the expectation of marriage among them; which, he says, is above 2½ years more than the expectation of marriage would be, by Dr Halley's table, on the supposition, that all first, second, and third marriages, may be justly considered as commencing one with another so early as the age of 30; and he has proved, that the expectation of two equal joint lives is to the expectation of a single life of the same age as 2 to 3: consequently, the expectation of a single life at 30, among the ministers in Scotland, cannot be less than 32.25. If we suppose the mean ages of all who marry annually to be 33 and 25, the expectation of every marriage would be 19 years; or one with another they would be all extinct in 19 years: the marriages which continue beyond this term, though fewer in number, enjoying among them just as much more duration as those that fall short of it enjoy less. But it appears from the observations and tables of Mr Muret, that, in the district of Vaud (dividing half the number of married persons, viz. 38,328, by the annual medium of weddings, viz. 808), the expectation of marriage is only 23½ years: so much higher are the probabilities of life in the country than in towns, or than they ought to be, according to De Moivre's hypothesis.

**MARRIAGE** (*Matrimonium*), in *Law*, signifies not only the lawful joining of man and wife, but also the right of bestowing a ward or a widow in marriage, as well as the land given in marriage.

*Dissolution of MARRIAGE*. See **DIVORCE**.

*Forcible MARRIAGE*. See **FORCIBLE MARRIAGE**.

*Frank MARRIAGE*. See **FRANK**.

*Facilitation of MARRIAGE*, in *Law*, is one of the first and principal matrimonial causes, when one of the parties boasts or gives out, that he or she is married to the other, whereby a common reputation of their matrimony may ensue. On this ground the party injured may libel the other in the spiritual court; and unless the defendant undertakes and makes out a proof of the actual marriage, he or she is enjoined perpetual silence on that head; which is the only remedy the ecclesiastical courts can give for this injury.

*MARRIAGE Settlement* is a legal act, previous to marriage, whereby a jointure is secured to the wife after the death of the husband. These settlements seem to have been in use among the ancient Germans, and their kindred nation the Gauls. Of the former Tacitus gives us this account: *Dotem non uxori marito, sed uxori maritus affert: intersunt parentes et propinqui, et munera probant* (De Mor. Germ. c. 18.). And Cæsar, (De Bell. Gallic. lib. vi. c. 18.) has given us the terms of a marriage settlement among the Gauls, as nicely calculated as any modern jointure: *Viri, quantas pecunias ab uxoris dotis nomine acceperunt, tantas ex suis bonis, æstimatione facta, cum dotibus communicant. Hujus omnis pecunie conjunctionis ratio habetur, fructusque*

*servatur. Uter eorum vita superavit, ad eum pars utriusque cum fructibus superiorum temporum pervenit.* The dauphin's commentator supposes that this Gaulish custom was the ground of the new regulations made by Justinian, Nov. 97. with regard to the provision for widows among the Romans; but surely there is as much reason to suppose, says Judge Blackstone, that it gave the hint for our statutable jointures. Comment. vol. ii. p. 138.

See an excellent marriage settlement by Blackstone in the appendix to the second volume of his Commentaries.

*Duty of MARRIAGE*, is a term used in some ancient customs, signifying an obligation on women to marry. To understand this, it must be observed, that old maids and widows about sixty, who held fees in body, or were charged with any personal or military services, were anciently obliged to marry, to render those services to the lord by their husbands, or to indemnify the lord for what they could not do in person. And this was called *duty or service of marriage*.

*Policy of encouraging MARRIAGE*. Dr Halley observes, that the growth and increase of mankind is not so much stinted by any thing in the nature of the species, as it is from the cautious difficulty most people make to adventure on the state of marriage, from the prospect of the trouble and charge of providing for a family; nor are the poorer sort of people herein to be blamed, who, besides themselves and families, are obliged to work for the proprietors of the lands that feed them; and of such does the greater part of mankind consist. Were it not for the backwardness to marriage, there might be four times as many births as we find; for by computation from the table given under the article **MORTALITY**, there are 15,000 persons above 16 and under 45, of which at least 7000 are women capable of bearing children; yet there are only 1238, or little more than a sixth part of these, that breed yearly: whereas, were they all married, it is highly probable that four of six should bring forth a child every year, the political consequences of which are evident. Therefore, as the strength and glory of a kingdom or state consists in the multitude of subjects, celibacy above all things ought to be discouraged, as by extraordinary taxing or military service; and, on the contrary, those who have numerous families should be allowed certain privileges and immunities, like the *jus trium liberorum* among the Romans: and especially, by effectually providing for the subsistence of the poor.

**MARROW**, in *Anatomy*, is a soft oleaginous substance contained in the cavity of the bones. See **ANATOMY**, N° 5.

**MARRUBIUM**, **WHITE HOREHOUND**; a genus of plants belonging to the didymnaia class; and in the natural method ranking under the 42d order, *Verticillate*. See **BOTANY Index**.

**MARS**, in *Astronomy*, one of the eleven planets, situated without the earth's orbit, and remarkable for the extent of its atmosphere and the redness of its light. See **ASTRONOMY Index**.

The red colour of this planet, according to Mr \* *Supplementary* Brewster \*, is owing to the same cause as the redness of *Chapters to* the morning and evening clouds. When a beam of *Ferguson's* white light passes through any medium, its colour in *Astronomy*, *clines* vol. ii.



clines to red, in proportion to the space through which it has travelled, and the density of the medium. The momentum of the red or least refrangible rays being greater than that of the violet or most refrangible rays, the former will make their way through the resisting medium, while the latter are either reflected or absorbed. The colour of the beam, therefore, when it reaches the eye, must partake of the colour of the least refrangible ray; and the redness of this colour must increase with the number of the violet rays that have been obstructed. Hence we see, that the sun, moon, and stars appear red when in the horizon; and that every luminous object seen through a mist is of a ruddy hue. Now, the planet Mars is allowed to have an atmosphere of great density and extent, as is manifest from the dim appearance of the fixed stars that are placed at a considerable distance from his disk. The sun's light therefore, by which this planet is illuminated, having to pass twice through the atmosphere of Mars before it reaches the earth, must be deprived of a great proportion of the violet rays; and consequently the colour of the resulting light by which Mars is visible, must be red.—As there is a considerable difference of colour among the other planets, and likewise among the fixed stars, are we not entitled to conclude, that those in which the red colour predominates, have the greatest or the densest atmospheres? According to this principle, Saturn must have the next greatest atmosphere to that of Mars.

MARS, in Pagan worship, the god of war. He was, according to some, the son of Jupiter and Juno; while others say that he was the son of Juno alone, who being displeas'd at Jupiter's having produced Minerva from his brain, without female aid, in revenge conceived without the assistance of the other sex, by touching a flower shown to her by Flora in the plains of Olenus, and became the mother of this formidable deity. The amours of Mars and Venus, and the manner in which Vulcan caught and exposed them to the laughter of the other gods, have been described by several of the ancient poets. He is represented as having several wives and mistresses, and a considerable number of children. He was held in the highest veneration by the Romans, both from his being the father of Romulus their founder, and from their inclination to conquest; and had magnificent temples erected to him at Rome.

Mars is usually represented in a chariot, drawn by furious horses. He is completely armed; and extends his spear with the one hand, and grasps a sword, imbrued in blood, with the other. He has a fierce and savage aspect. Discord is represented preceding his car; and Clamour, Fear, and Terror, appear in his train. The victims sacrificed to him were the wolf, the horse, the woodpecker, the vulture, and the cock.

MARS, among the older chemists, denotes *iron*; that metal being supposed to be under the influence of the planet Mars.

MARSAIS, CÉSAR CHESNEAU DU, an eminent literary character, was born at Marfelles 1676. He attached himself at an early period of life to the order of the congregation of the oratory; but the situation was too narrow for his genius, and he soon left it. At Paris he married, became advocate, and entered on this

new profession with great success and approbation. Disappointed, however, in his expectations of making a speedy fortune, he abandoned the law also. About this time the peevish humour of his wife occasioned a separation. We next find him as governor to the son of the president de Mailons; and when the premature death of the father deprived him of the fruits of his industry, he engaged with the famous Law in the same capacity. After the fall of this extraordinary projector, he completed the education of the marquis de Beaufremont's children, and reared pupils worthy of his genius and industry. Although he was accused of a tendency to Deism, and though there was good reason for the accusation; yet he never infused into the minds of his scholars any principle inconsistent with sound morality, or with the Christian religion. When he left M. de Beaufremont's family, he took a boarding house, in which, after a method of his own, he educated a certain number of young men. Unexpected circumstances obliged him to abandon this useful undertaking. He was even constrained to give some occasional lessons for the bare necessities of life. Without fortune, without hope, and almost without resource, he was reduced to extreme indigence. In this situation he was found by the authors of the *Encyclopédie*, and made a partner in conducting that great work. Among many other excellent pieces, the article *Grammar* breathes the spirit of sound philosophy. His principles are clear and solid. He discovers an extreme knowledge of the subject, great accuracy in the rules, and great propriety in the application. M. le Comte de Lauraguais was so much affected with the mistress, and so much convinced of the merit of *Du Marfais*, that he procured him a pension of 1000 livres. Du Marfais died at Paris on the 11th of June 1756, in his eightieth year, after having received the sacrament. The compliment which he paid to the priest on this occasion has been considered by some as rather equivocal. But there is no necessity to deprive religion of this triumph, or philosophy of that honour which conviction and penitence must confer on it. "The faith of a great genius (says Bayle, who is entitled to credit on this subject), is not totally extinguished: It is like a spark under the ashes. Reflection and the prospect of danger call forth its exertions. There are certain situations in which philosophers are as full of anxiety and remorse as other men." Whatever were the last sentiments of Du Marfais, it cannot be denied that in the vigour of health he furnished several examples of irreligion, and to these have been added many absurd fancies. The superiority of Du Marfais's talents consisted in exactness and peripateticity. His ignorance of the world, and of the customs of mankind, together with the greatest latitude in expressing whatever he thought, gave him that frank and unguarded simplicity which is often the chief ingredient of genuine humour. Fontenelle used to say of him, "that he was the most lively simpleton, and as a man of wit the most simple he ever knew." He was the Fontaine of philosophers. In consequence of this character, he was a nice judge of what was natural in every production, and a great enemy to all kind of affectation. His principal works are, 1. *Exposition de la doctrine de l'Eglise Gallicane par rapportaux preteritions de la Cour de Rome*, 12mo. This accurate work was begun at the desire of the pre-  
sident



Marfais  
Marfeilles. fident de Maisons, and did not appear till after the death of the author. 2. *Exposition d'une methode raisonnee pour apprendre la langue Latine*, 12mo, 1722, rare. This method appears conformable to the natural unfolding of the powers of the mind, and on that account renders the acquisition of the language less difficult; but it was liable to two great objections to vulgar and unenlightened understandings, namely, its novelty, and the censure which it conveyed against the former method. 3. *Traité des tropes*, 1730, 8vo; again printed in 1771, 12mo. This work is intended to explain the different significations of the same word. It is a masterpiece of logic, of accuracy, of perspicuity, and precision. The observations and the rules are illustrated by striking examples calculated to show both the use and the abuse of the rhetorical figures. It is wonderful at the same time that this excellent book had very little sale, and is scarcely known. A gentleman who wanted to compliment the author on this extraordinary performance, told him that he had heard a great deal of his *Histoire des Tropes*, and begged to know in what particular part of the world the nation flourished. 4. *Les veritables Principes de la Grammaire raisonnee pour apprendre la langue Latine*, 1729, 4to. There was only the preface of this work published, in which he introduced the greatest part of his *methode raisonnee*. 5. *Labeige de la fable du Pere Jouvenci*, arranged after the manner of the original plan, 1731, 12mo. 6. *Une reponse manuscrite à la Critique de l'Histoire des Oracles par le Pere Baltus*. There are only imperfect fragments of these papers to be found. 7. *Logique, ou reflexions sur les operations de l'Esprit*. This is a short tract, which nevertheless contains every thing necessary to be known on the art of reasoning. It was reprinted at Paris in two parts, together with the articles which he had furnished for the *Encyclopédie*, 1762.

MARSAL, a town of France, in Lorrain, remarkable for its salt works; seated in a marsh on the river Selle, of difficult access, which, together with the fortifications, render it an important place. E. Long. 6. 43. N. Lat. 48. 46.

MARSALA, an ancient and strong town of Sicily, in the valley of Mazara. It is well peopled, and built on the ruins of the ancient Lilybœum. E. Long. 12. 27. N. Lat. 37. 52.

MARSAN, or MOUNT MARSAN, a town of France, in Gascony, and capital of a small territory of the same name, fertile in wine; seated on the river Miduse, in W. Long. 0. 39. N. Lat. 44. 0.

MARSAQUIVER, or MARSALQUIVER, a strong and ancient town of Africa, on the coast of Barbary, and in the province of Beni Arax, in the kingdom of Tremesen, with one of the best harbours in Africa. It was taken by the Spaniards in 1732. It is seated on a rock near a bay of the sea, in W. Long. 0. 10. N. Lat. 35. 40.

MARSEILLES, a strong sea port, and the richest town of Provence, in France. Here is a good harbour, where the French galleys are stationed; for it will not admit large men of war. The entrance of the harbour, which is extremely narrow and surrounded by lofty mountains, protects and shelters vessels during the most violent storms. The port itself forms a delightful walk even in the middle of winter, as it is open to the southern sun, and crowded with vast num-

bers of people, not only of all the European nations, but of Turks, Greeks, and natives of the coast of Barbary. The whole scene is one of the most agreeable that can be imagined, if the chains of the galley slaves heard among the hum of business did not tincture it with the hateful idea of slavery. The galleys themselves, uselefs and neglected, rot peaceably in their respective stations: and it is said that no others will ever be constructed to supply their place, as they have long ceased to be of any utility to the state, and are scarcely even navigable in severe weather. Marfeilles pretends to the most remote antiquity; a colony of Phocians, in ages unknown, having given it birth. It is divided into the Old Town and the New; which are separated by a street, bordered with trees on each side. The Old Town is one of the worst built of any in Europe. The New has sprung up since the commencement of the 18th century, and has all that regularity, elegance, and convenience, which distinguish the present times. It is said to contain 100,000 inhabitants, and is one of the most trading towns in France. Without the walls is the castle of Notre-Dame, which is very well fortified. It is a bishop's see, and there is a French academy; it having been noted at all times for men of learning. In 1660, Louis XIV. built the citadel and Fort St John to keep the inhabitants in awe, because they pretended to be free. The Jesuits had a very fine observatory here; and in the arsenal, built not long ago, there are arms for 40,000 men. In the House of Discipline they weave gold, silver, and silk brocades. The drugs are brought thither from all parts of the world. It is seated on the north shore of the Mediterranean, in E. Long. 4. 27. N. Lat. 43. 18. The surrounding country is rocky and barren, but covered for several miles on all sides with villas and summer houses, which commerce has erected.

MARSH, NARCISSUS, a learned Irish prelate, was born at Hannington in Wiltshire in 1638. He was made principal of St Alban's hall, Oxford, in 1673, but removed to the provostship of Dublin college in 1678, promoted to the bishopric of Leighlin and Ferns in 1682, translated to the archbishopric of Cashel in 1690, to Dublin in 1694, and to Armagh in 1703. While he held the see of Dublin, he built a noble library for the use of the public, filled it with choice books, and settled a provision for two librarians. He repaired, at his own expence, several decayed churches, besides buying in and restoring many impropriations, and presenting a great number of oriental MSS. to the Bodleian library. He was a very learned and accomplished man; was well versed in sacred and profane literature, in mathematics, natural philosophy, the learned languages, especially the oriental, and in both the theory and practice of music. He published, 1. *Institutiones logicæ*. 2. *Manuductio ad logicam*, written by Philip de Trieu; to which he added the Greek text of Aristotle and some tables and schemes. 3. An introductory essay on the doctrine of sounds, &c. He died in 1713.

MARSH, signifies a piece of ground flowed with water, yet so that the grass and other vegetables rise above the surface of the water, and, by their decaying, give rise to putrid effluvia, which are very pernicious to the human body.

MARSHAL, or MARESCHAL, (*marescallus*), primarily



**Marshal** marily denotes an officer who has the care or the command of hoises. Nicod derives the word from *polemarchus*, "master of the camp;" Matthew Paris from *Martis senescallus*. In the old Gaulish language, *march* signified "horse;" whence *marechal* might signify "him who commanded the cavalry." Other derivations have been given by different authors; and the name itself has been applied to officers of very different employments.

*MARSHAL of France*, the highest dignity of preferment in the French armies under the old government. The dignity of marshal came to be for life, though at its first institution it was otherwise. They were then only the king's first ecuyers under the constable; but in time they became the constable's lieutenants in the command of the army, the constable himself being then become captain-general. At first they were but two in number; and their allowance was but 500 livres per annum in time of war, and nothing in time of peace; but in the reign of Francis I. a third was added; Henry II. created a fourth. Since, it has been various; Louis XIV. increased it to 20. Their office at first was, to marshal the army under the constable, and to command in his absence. They did then what the *marshals de camp* do now; to which last they have given their title, and the least considerable part of their authority.

*Earl MARSHAL of Scotland*. His office was to command the cavalry, whereas the CONSTABLE commanded the whole army. They seem, however, to have had a sort of joint command, as of old all orders were addressed "to our constable and marischal." The office of earl marischal has never been out of the noble family of Keith. It was reserved at the Union; and when the heritable jurisdictions were bought, it was in the crown, being forfeited by the rebellion of Geo. Keith, earl marischal, in 1715.

*Earl MARSHAL of England* is the eighth great officer of state. This office, until it was made hereditary, always passed by grant from the king, and never was held by tenure or serjeantry (by any subject), as the offices of lord high steward and lord high constable were sometimes held. The title is personal, the office honorary and officinary. They were formerly styled *lord marshal* only, until King Richard II. June 20. 1397, granted letters patent to Thomas Mowbray, earl of Nottingham, and to the heirs male of his body lawfully begotten, by the name and style of *earl marshal*; and further, gave them power to bear in their hand a gold truncheon, enamelled with black at each end; having at the upper end of it the king's arms engraven thereon, and at the lower end his own arms.

King James I. was pleased, by letters patent, dated August 29th 1622, to constitute Thomas Howard, earl of Arundel and Surrey, earl marshal for life; and the next year, the same king granted (with the advice of the privy council, letters-patent, wherein it was declared, that during the vacancy of the office of lord high constable of England, the earl marshal had the like jurisdiction in the court of chivalry, as both constable and marshal jointly ever exercised. See *CHIVALRY, Court of*.

On the 19th of October 1672, King Charles II. was pleased to grant to Henry Lord Howard, and the

heirs male of his body lawfully begotten, the office and dignity of earl marshal of England, with power to execute the same by deputy or deputies, in as full and ample a manner as the same was heretofore executed by Henry Howard, Lord Maltravers, late earl of Arundel, Surrey, and Norfolk, grandfather to the said Henry Lord Howard; or by Thomas Howard late duke of Norfolk, grandfather to the said Thomas Howard, late earl of Arundel, Surrey, and Norfolk; or by Thomas Howard duke of Norfolk, grandfather of the said Thomas Howard duke of Norfolk; or by John Mowbray duke of Norfolk, or any other earl marshal of England; with a pension of 20l. each year, payable out of the hanaper office in chancery; and on default of the issue-male of the said Henry Lord Howard, with limitation to the heirs male lawfully begotten of the body of the said Thomas Howard earl of Arundel, &c.; and, on the default of such issue, to descend in like manner to the heirs male of Thomas late earl of Suffolk; and, on default of his issue male, to the heirs male of Lord William Howard, late of Naworth in the county of Cumberland, youngest son to Henry Howard late duke of Norfolk; and, on default of his issue male, to Charles Howard earl of Nottingham, and the heirs male of his body lawfully begotten.

*Field-MARSHAL*, an officer of high rank in the European armies. It is now, however, disused in the British army; Lord Tyrawley was the last, appointed in 1763.

*Knight-MARSHAL*, or *MARSHAL of the King's House*, an English officer, whose business, according to Fleta, is to execute the commands and decrees of the lord steward, and to have the custody of prisoners committed by the court of verge. Under him are six marshal's men, who are properly the king's bailiffs, and arrest in the verge of the court, when a warrant is backed by the board of green-cloth. The court where causes of this kind, between man and man, are tried, is called the *Marshalsea*, and is under the knight-marshal. See *MARSHALSEA*.

This is also the name of the prison in Southwark; the reason of which may probably be, that the marshal of the king's house was wont to sit there in judgement, or keep his prison.

*MARSHAL of the King's Bench*, an officer who has custody of the prison called the *King's Bench* in Southwark. He gives attendance upon the court, and takes into his custody all prisoners committed by the court; he is finable for his absence, and non-attendance incurs a forfeiture of his office. The power of appointing the marshal of the king's bench is in the crown.

In Fleta, mention is also made of a *marshal of the exchequer*, to whom the court commits the custody of the king's debtors, &c.

*MARSHALLING a COAT*, in *Heraldry*, is the disposal of several coats of arms belonging to distinct families in one and the same escutcheon or shield, together with their ornaments, parts, and appurtenances. See *HERALDRY*, chap. vi. p. 466.

*MARSHALSEA*, the *Court of*, and the *Palace Court* at Westminster, though two distinct courts, are frequently confounded together. The former was originally holden before the steward and marshal of the king's

Marshal  
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Marshalsea.



king's house, and was instituted to administer justice between the king's domestic servants, that they might not be drawn into other courts, and thereby the king lose their service. It was formerly held in, though not a part of, the *aula regis*; and, when that was subdivided, remained a distinct jurisdiction: holding plea of all trespasses committed within the verge of the court, where only one of the parties is in the king's domestic service (in which case the inquest shall be taken by a jury of the country); and of all debts, contracts, and covenants, where both of the contracting parties belong to the royal household; and then the inquest shall be composed of men of the household only. By the statute of 13 Rich. II. stat. 1. c. 3. (in affirmance of the common law), the verge of the court in this respect extends for 12 miles round the king's place of residence. And, as this tribunal was never subject to the jurisdiction of the chief justiciary, no writ of error lay from it (though a court of record) to the king's bench, but only to parliament, till the statutes of 5 Edw. III. c. 2. and 10 Edw. III. stat. 2. c. 3. which allowed such writ of error before the king in his place. But this court being ambulatory, and obliged to follow the king in all his progresses, so that by the removal of the household actions were frequently discontinued, and doubts having arisen as to the extent of its jurisdiction, King Charles I. in the sixth year of his reign, by his letters patent, erected a new court of record, called the *curia palatii*, or *palace court*, to be held before the steward of the household and knight-marshal, and the steward of the court, or his deputy; with jurisdiction to hold plea of all manner of personal actions whatsoever, which shall arise between any parties within 12 miles of his majesty's palace at Whitehall. The court is now held once a week, together with the ancient court of marshal-see, in the borough of Southwark: and a writ of error lies from thence to the court of king's bench. But if the cause is of any considerable consequence, it is usually removed on its first commencement, together with the custody of the defendant, either into the king's bench or common pleas, by a writ of *habeas corpus cum causa*: and the inferior business of the court hath of late years been much reduced, by the new courts of conscience erected in the environs of London; in consideration of which the four counsel belonging to these courts had salaries granted them for their lives by the stat. 23 Geo. II. c. 27.

**MARSHFIELD**, a town of Gloucestershire, seven miles from Bath, 12 from Chipping-Sodbury, 12½ from Bristol, 35 from Gloucester, and 104 from London, on the road to Bristol, and on the very borders of Wilts. It is a considerable clothing-town, drives a good trade in malt, and is famous for cakes. It consists chiefly of one street of old buildings near a mile long; and is governed by a bailiff. It has a large church, with a well endowed alms house and a chapel to it for eight poor people, and a charity school; and it has a weekly market and two fairs.

**MARSHLAND**, a marshy peninsula in the county of Norfolk, opposite to King's Lynn, almost surrounded with the Ouse and other navigable rivers, and an arm of the sea. It seems formerly to have been recovered out of the ocean, from whose inundations it could never be altogether defended; and in Sir Henry Spelman's time it suffered two general ones, viz. one from

the salt water, the other from the freshes; by the last of which the inhabitants suffered 42,000*l.* damage. It contains about 30,000 acres, which turn to more profit by grazing than ploughing. It is about 10 miles in the widest place, and has no less than 111 brick bridges. The commonage of it belongs to seven villages that surround it. The air is so unhealthy, that an ague is commonly called *the Marshland bailiff*.

**MARSHMALLOW**. See **ALTHEA**, **BOTANY Index**.

**MARSI**, a nation of Germany, who afterwards came to settle in Italy, where they occupied the territory in the environs of the Fucine lake. They at first proved very inimical to Rome, but in process of time they became its firmest supporters. They were allowed by the Romans to be the most intrepid soldiers of their legions when in friendship, and the most formidable of their enemies when at variance; and it was a common saying, that Rome could neither triumph over the Marfi nor without them. They are particularly celebrated for the civil war in which they were engaged, and which from them has received the name of the *Marfian war*. The large contributions they made to support the interest of Rome, and the number of men which they continually supplied to the republic, rendered them bold and aspiring; and they claimed, with the rest of the Italian states, a share of the honour and privileges which were enjoyed by the citizens of Rome. This petition, though supported by the interest, the eloquence, and the integrity of the tribune Drusus, was received with contempt by the Roman senate; upon which, in the 662d year of Rome, the Marfi put themselves at the head of the Social war, one of the most obstinate and dangerous oppositions ever made to the progress of the Roman power. They obtained several victories: but they were at last defeated; though the war was not terminated but by a grant of those privileges for which they contended.

**MARSICO NUOVO**, a small, rich, and handsome town of Italy, in the kingdom of Naples, and in the Hither Principato, with a bishop's see. It is seated at the foot of the Apennines, near the river Agri, in E. Long. 15. 49. N. Lat. 20. 42.

**MARSIGLI**, **LEWIS FERDINAND**, **COUNT**, an Italian, famous for letters as well as arms, was descended from an ancient and noble family, and born at Bologna in 1658. He acquired a great knowledge in the art of war and fortification; served under the emperor Leopold II. against the Turks, by whom he was taken prisoner in 1683, but redeemed, after a year's captivity. In the Spanish succession war, Marsigli, then advanced to the rank of marshal, being in the fortress of Brisac, which surrendered to the duke of Burgundy in 1703, when the place was deemed capable of holding out much longer, was stripped of all his commissions, and had his sword broke over him; and the count d'Arco who commanded was beheaded. Marsigli now sought for consolation in the sciences; as, amidst all the hurry and fatigue of war, he had made all the advantages the most philosophic man could do, who had travelled purely in quest of knowledge. He had a rich collection of every thing proper to the advancement of natural knowledge, instruments astronomical and chemical, plans of fortifications, models of machines,



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machines, &c. all which he presented to the senate of Bologna by an authentic act in 1712, forming at the same time out of them what he called *the Institute of the arts and sciences at Bologna*. He also founded a printing house, and furnished it with the best types for Latin, Greek, Hebrew, and Arabic, which he presented in 1728 to the Dominicans at Bologna, on condition of their printing all the writings of the *Institute* at prime cost: this was called *the printing house of St Thomas Aquinas*. His writings on philosophical subjects are numerous and valuable, in Latin, Italian, and French. He died in 1730.

MARSTON, JOHN, an English dramatic writer, who lived in the time of James I. Wood says he was a student in Corpus Christi college, Oxford; but neither his family nor the time of his birth is known. He produced eight plays for the stage, which were all acted at Blackfriars with applause: and one of them, called the *Dutch Courtesan*, was once revived since the Restoration, under the title of the *Revenge*, or a *Match in Newgate*. There is no account when he died; but we find his works were published after his death by Shakespeare, and may thence reasonably conclude that it happened about the year 1614. He was a chaste and pure writer; avoiding all that obscenity, ribaldry, and scurrility, which too many of the playwrights of that time, and indeed much more so in some periods since, have made the basis of their wit, to the great disgrace and scandal of the stage.

MARSYAS, in fabulous history, a celebrated musician of Celæne in Phrygia, son of Olympus, or of Hyagnis, or Cægrus. He was so skilful in playing on the flute, that he is generally deemed the inventor of it. According to the opinion of some, he found it when Minerva had thrown it aside on account of the distortion of her face when she played upon it. Marsyas was enamoured of Cybele, and he travelled with her as far as Nyssa, where he had the imprudence to challenge Apollo to a trial of his skill as a musician. The god accepted the challenge, and it was mutually agreed that he who was defeated should be dead alive by the conqueror. The Muses, or (according to Diodorus) the inhabitants of Nyssa, were appointed umpires. Each exerted his utmost skill, and the victory, with much difficulty, was adjudged to Apollo. The god upon this tied his antagonist to a tree, and dead him alive: (See APOLLO). The death of Marsyas was universally lamented; the Fauns, Satyrs, and Dryads, wept at his fate; and from their abundant tears arose a river of Phrygia, well known by the name of *Marsyas*. The unfortunate Marsyas is often represented on monuments, as tied with his hands behind his back to a tree, while Apollo stands before him with his lyre in his hands. In independent cities, among the ancients, the statue of Marsyas was generally erected in the forum, to represent the intimacy which subsisted between Bacchus and Marsyas as the emblems of liberty. At Celæne, the skin of Marsyas was shown to travellers for some time. It was suspended in the public place, in the form of a bladder or a foot ball.

The sources of the Marsyas were near those of the Mæander, and those two rivers had their confluence a little below the town of Celæne.

MART, a great fair held every year for buying

and selling goods. Public marts, or places of buying and selling, such as markets and fairs, with the tolls thereunto belonging, can only be set up by virtue of the king's grant, or by long and immemorial usage and prescription, which presupposes such a grant. The limitation of these public resorts, to such time and place as may be most convenient for the neighbourhood, forms a part of economics, or domestic polity; which, considering the kingdom as a large family, and the king as the master of it, he has clearly a right to dispose and order as he pleases.

MARTABAN, a province of Asia, in the kingdom of Pegu, lying in the gulf of Bengal. It is a country that produces rice and all kinds of fruits proper to the climate. It has mines of several sorts of metals, and carries on a great trade. The chief town, which is of the same name, is rich, handsome, and very populous, with a good harbour. E. Long. 97. 50. N. Lat. 15. 35.

MARTEAU, the name given by French naturalists to a peculiar species of oysters, called also *malleus* by others, the figure of which is that of a hammer, or rather of a pickaxe. See OSTREA, CONCHOLGY Index.

MARTHA, St, a province of South America, on the coast of Terra Firma, bounded on the north by the North sea, on the east by Rio de la Hache, on the south by New Granada, and on the west by Carthage-na. It is 300 miles in length and 200 in breadth, is a mountainous country, and the land very high. Here begins the famous ridge of mountains called the *Cordilleras des los Andes*, which run from north to south the whole length of the continent of South America. It is extremely hot on the sea coast; but cold in the internal parts, on account of the mountains. It abounds with the fruits proper to the climate; and there are mines of gold and precious stones, as also salt works. The Spaniards possess but one part of this province, in which they have built St Martha the capital. The air about the town is wholesome; and is seated near the sea, having a harbour surrounded with high mountains. It was formerly very considerable when the galleons were sent thither, but is now come almost to nothing. W. Long. 74. 11. N. Lat. 11. 20.

MARTHA, St, or *Sierra Nevada*, a very high mountain in New Spain. Some say it is 100 miles in circumference at the bottom, and five miles in height. The top is always covered with snow in the hottest weather; and the French affirm, that they can perceive it from the island of St Domingo, which is 370 miles distant. W. Long. 74. 35. N. Lat. 8. 0.

MARTHA'S Vineyard, an island of North America near the coast of New England, 80 miles south of Boston. The inhabitants apply themselves chiefly to their fisheries, in which they have great success. W. Long. 70. 35. N. Lat. 41. 0.

MARTIAL, is sometimes used to express preparations of iron, or such as are impregnated therewith; as the martial regulus of antimony, &c.

MARTIAL Court. See COURT Martial.

MARTIAL Law, is the law of war that depends upon the just but arbitrary will and pleasure of the king, or his lieutenant: for though the king doth not make any laws but by common consent in parliament, yet, in time of war, by reason of the necessity of it to guard against

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Martialis  
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against dangers that often arise, he useth absolute power, so that his word is a law. *Smith de Repub. Ang. lib. ii. c. 4.*

But the martial law (according to Chief Justice Hale), is in reality not a law, but something indulgent rather than allowed as a law; and it relates only to members of the army, being never intended to be executed on others, who ought to be ordered and governed by the laws to which they are subject, though it be a time of war. And the exercise of martial law, whereby any person might lose his life, or member, or liberty, may not be permitted in time of peace, when the king's courts are open for all persons to receive justice.

MARTIALIS, MARCUS VALERIUS, a famous Latin poet, born at Bilbilis, now called *Bubiera*, in the kingdom of Arragon in Spain, was of the order of knights. He went to Rome at the age of 21, and staid there 35 years, under the reign of Galba and the succeeding emperors, till that of Trajan; and having acquired the esteem of Titus and Domitian, he was created tribune. At length, finding that he was neglected by Trajan, he returned to his own country Bilbilis, where he married a wife, and had the happiness to live with her several years. He admires and commends her much, telling her that she alone was sufficient to supply the want of every thing he enjoyed at Rome. "*Roman tu mihi sola facis,*" says he, in the 21st epigram of the 12th book. She appears likewise to have been a lady of a very large fortune; for, in the 31st epigram of the same book, he extols the magnificence of the house and gardens he had received from her, and says that she had made him a little kind of monarch."

*Munera sunt domino: post septima iustria reverso,  
Hæc Marcella domos, parvaque regna dedit.*

There are still extant 14 books of his epigrams, filled with points, a play upon words, and obscenities. The style is affected. However, some of his epigrams are excellent; many of them are of the middling kind; and the greatest part of them are bad: so that Martial never spoke a greater truth, than when he said of his own works,

*Sunt bona, sunt quedam mediocra, sunt mala plura.*

There is also attributed to him a book on the spectacles of the amphitheatre; but the most learned critics think that this last work was not written by Martial. The best editions of Martial are, that in *Usum Delphini*, 4to, Paris, 1617, and that *cum Notis Variorum*.

MARTIGUES, a sea-port town of France, in Provence, with the title of a principality; seated near a lake 12 miles long and five broad, which is navigable throughout, and from whence they get excellent salt. E. Long. 4. 20. N. Lat. 43. 38.

MARTIN, St., was born at Sabaria in Pannonia, (at present *Stain* in Lower Hungary), in the beginning of the fourth century. His father was a military tribune; and he himself was obliged to carry arms, although peace and solitude were much more agreeable to his inclination. He was remarkable for every virtue, in a profession which is generally considered to give a sanction to vice. He divided his coat with a

naked wretch whom he met at the gate of Amiens; and it is reported, that Jesus Christ appeared to him on the night following, clothed in this half of his coat. Martin was then a catechumen; but he soon afterwards received baptism, and renounced the military profession for the ecclesiastical. After passing many years in solitude, St Hilary bishop of Poitiers gave him the power to cast out devils. On his return to Pannonia, he persuaded his mother to embrace Christianity; and with great zeal and activity opposed the Arians, who governed the church in Illyria. When he was publicly whipt for giving testimony to the divinity of Christ, he bore the punishment with the constancy and patience of the first martyrs. This illustrious champion for Christianity, when he heard that St Hilary was returned from banishment, went and settled in the neighbourhood of Poitiers. In this retirement, a great number of monks placed themselves under his direction. His virtues became every day more splendid and remarkable, till he was drawn from his solitude, and with the general approbation of the clergy and people elected bishop of Tours in the year 374. To the zeal and charity of a bishop, he joined the humility and poverty of an anchorite. That he might detach himself more from the world, he built the celebrated monastery of Marmoutier, which still remains, and which is believed to be the oldest abbey in France. It is situated near the city of Tours, betwixt the Loire and a steep rock. In this situation, together with 80 monks, St Martin displayed the most exemplary sanctity and mortification; nor were there any monks better disciplined than those of Marmoutier. After he had converted his diocese to the Christian faith, he became the apostle of all Gaul. He diffused the doctrines of Christianity among the heathens, destroyed their temples, and (according to the writers of his life), confirmed the truth by an infinite number of miracles. The emperor Valentinian, at that time in Gaul, received him with every mark of respect and honour. The tyrant Maximus, who had revolted against the emperor Gratian, and seized on Spain, England, and Gaul, received him in a manner no less distinguished. The holy bishop attended him at Treves in the year 383, to solicit some favours. Maximus made him sit at his table with the most illustrious persons of his court, and placed him at his right hand. In drinking, the usurper commanded his servants to give him a cup, that he might again receive it from him; but this extraordinary prelate gave it to the priest who accompanied him on his journey. This holy boldness, far from displeasing them, gained him the favour of the emperor and of his court. Martin, who was an enemy to heresy, but a friend of mankind, employed his influence with this prince to preserve the Priscillians, who were persecuted by Ithace and by Idace, bishops of Spain. The bishop of Tours would hold no communion with men whose principles of religion inclined them to shed the blood of mankind; and he obtained the life of those whose death they had solicited. On his return to Tours, he prepared himself for the reward of his labours in another world. He died at Candes the 8th of November 397, but according to others on the 11th of November 400. His name is given to a particular opinion concerning the

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mystery.



Martin.

mystery of the holy Trinity. St Martin is the first of the saints confessors to whom the Latin church offered public prayers. His life is written in elegant Latin by Fortunatus, and Sulpicius Severus one of his disciples. Paul of Perigueux and Fortunatus of Poitiers have given us Sulpicius's life of Martin in verse; but they have defaced the admirable prose of the author by a wretched poetical imitation. Nicolas Gervais wrote also the life of St Martin, full of many curious and entertaining facts, published at Tours in 1699, in 4to. The tradition at Amiens is, that St Martin performed the act of charity which rendered him so famous, near an ancient gate of the city, of which the ruins are still visible. The following Latin verses, which do more honour to the saint than to the poet, are inscribed on one of the stones:

*Hic quondam vestem Martinus demidiavit;  
Ut faceremus idem, nobis exemplificavit.*

MARTIN, Benjamin, one of the most eminent artists and mathematicians of the age, was born in 1704. After publishing a variety of ingenious treatises, and particularly a Scientific Magazine under his own name, and carrying on for many years a very extensive trade as an optician and globe-maker in Fleet-street, the growing infirmities of age compelled him to withdraw from the active part of business. Trusting too fatally to what he thought the integrity of others, he unfortunately, though with a capital more than sufficient to pay all his debts, became a bankrupt. The unhappy old man, in a moment of desperation from this unexpected stroke, attempted to destroy himself; and the wound, though not immediately mortal, hastened his death, which happened February 9th 1782, in his 78th year. He had a valuable collection of fossils and curiosities of almost every species; which, after his death, were almost given away by public auction. His principal publications, as far as they have occurred to recollection, are, The Philosophic Grammar; being a view of the present state of experimental physiology, or natural philosophy, 1735, 8vo. A new, complete, and universal System or Body of Decimal Arithmetic, 1735, 8vo. The young Students Memorial Book, or Patent Library, 1735, 8vo. Description and Use of both the Globes, the Armillary Sphere and Orrery, Trigonometry, 1736, 2 vols 8vo. Memoirs of the Academy of Paris, 1740, 5 vols. System of the Newtonian Philosophy, 1759, 3 vols. New Elements of Optics, 1759. Mathematical Institutions, viz. Arithmetic, Algebra, Geometry, and Fluxions, 1759. Natural History of England, with a Map of each County, 1759, 2 vols. Philosophy, and Philosophical Geography, 1759. Mathematical Institutions, 1764, 2 vols. Lives of Philosophers, their Inventions, &c. 1764. Introduction to the Newtonian Philosophy, 1765. Institutions of Astronomical Calculations, 2 parts, 1765. Description and Use of the Air Pump, 1766. Description of the Torricellian Barometer, 1766. Appendix to the Description and Use of the Globes, 1766. Philosophia Britannica, 1778, 3 vols. Gentleman and Lady's Philosophy, 3 vols. Miscellaneous Correspondence, 4 vols. System of Philology. Philosophical Geography. Magazine complete, 14 vols. Principles of Pump-work.

Theory of the Hydrometer. Doctrine of Logarithms.

Martin  
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Martinico.

MARTIN, St, a small but strong town of France in the Isle of Rhé, with a harbour and a strong citadel, fortified after the manner of Vauban. The island lies near the coast of Poitou. W. Long. 1. o. N. Lat. 45. 40.

*Cape MARTIN*, a promontory of Valencia in Spain, near a town called *Denia*, and separates the gulf of Valencia from that of Alicanti.

MARTIN, St, an island of America, and one of the Caribbees, lying on the gulf of Mexico, to the north-west of St Bartholomew, and to the south-west of Anguilla. It is 42 miles in circumference; has neither harbour nor river, but several salt pits. After various revolutions, it is at length in possession of the French and Dutch, who possess it conjointly. W. Long. 62. 35. N. Lat. 18. 15.

MARTIN. See HIRUNDO, ORNITHOLOGY Index, and MUSTELA, MAMMALIA Index.

*Free MARTIN*, in Zoology, is a name given in this country to a cow calf castrated at the same time with a bull calf, which is a kind of hermaphrodite that is never known to breed nor to discover the least inclination for the bull, nor does the bull ever take the least notice of it. See HERMAPHRODITE.

MARTINGALE, in the manege, a thong of leather, fastened to one end of the girths under a horse's belly, and at the other end to the muls-roll, to keep him from rearing.

MARTINICO, the chief of the French Caribbee islands, the middle of which is situated in W. Long. 61. o. N. Lat. 14. 30.

This island was first settled by M. Desnambuc a Frenchman, in the year 1635, with only 100 men from St Christopher's. He chose rather to have it peopled from thence than from Europe; as he foresaw, that men, tired with the fatigue of such a long voyage, would mostly perish soon after their arrival, either from the climate, or from the hardships incident to most emigrations. They completed their first settlement without any difficulty. The natives, intimidated by their fire-arms, or seduced by promises, gave up the western and southern parts of the island to the newcomers. In a short time, however, perceiving the number of these enterprising strangers daily increasing, they resolved to extirpate them, and therefore called in the savages of the neighbouring islands to assist them. They fell jointly upon a little fort that had been hastily erected; but were repulsed, with the loss of 700 or 800 of their best warriors, who were left dead on the spot.

After this check, the savages for a long time disappeared entirely; but at last they returned, bringing with them presents to the French, and making excuses for what had happened. They were received in a friendly manner, and the reconciliation sealed with pots of brandy. This peaceable state of affairs, however, was of no long continuance; the French took such undue advantages of their superiority over the savages, that they soon rekindled in the others that hatred which had never been entirely subdued. The savages, whose manner of life requires a vast extent of land, finding themselves daily more and more straitened, had recourse to stratagem, in order to destroy their



<sup>Martinico.</sup> their enemies. They separated into small bands, and way-laid the French as they came singly out into the woods to hunt, and, waiting till the sportsman had discharged his piece, rushed upon and killed him before he could charge it again. Twenty men had been thus assassinated before any reason could be given for their sudden disappearance: but as soon as the matter was known, the French took a severe and fatal revenge; the savages were pursued and massacred, with their wives and children, and the few that escaped were driven out of Martinico, to which they never returned.

The French being thus left sole masters of the island, lived quietly on those spots which best suited their inclinations. At this time they were divided into two classes. The first consisted of those who had paid their passage to the island, and these were called *inhabitants*; and to these the government distributed lands, which became their own, upon paying a yearly tribute. These inhabitants had under their command a multitude of disorderly people brought over from Europe at their expence, whom they called *engagés*, or bondsmen. This engagement was a kind of slavery for the term of three years: on the expiration of which they were at liberty, and became the equals of those whom they had served. They all confined themselves at first to the culture of tobacco and cotton; to which was soon added that of arnotto and indigo. The culture of sugar also was begun about the year 1650. Ten years after, one Benjamin d'Acoffa, a Jew, planted some cocoa trees; but his example was not followed till 1684, when chocolate was more commonly used in France. Cocoa then became the principal support of the colonists, who had not a sufficient fund to undertake sugar plantations; but by the inclemency of the season in 1718, all the cocoa trees were destroyed at once.—Coffee was then proposed as a proper object of culture. The French ministry had received, as a present from the Dutch, two of these trees, which were carefully preserved in the king's botanical garden. Two young shoots were taken from these, put on board a ship for Martinico, and intrusted to the care of one Mr Desclieux. The ship happened to be straitened for want of fresh water; and the trees would have perished, had not that gentleman shared with them that quantity of water which was allowed for his own drinking. The culture of coffee was then begun, and attended with the greatest and most rapid success. About the end of last century, however, the colony had made but small advances. In 1700, it had only 6597 white inhabitants. The savages, mulattoes, and free negroes, men, women, and children, amounted to no more than 507. The number of slaves was but 14,566. All these together made a population of 21,645 persons. The whole of the cattle amounted to 3668 horses or mules, and 9217 head of horned cattle. The island produced a great quantity of cocoa, tobacco, and cotton; had nine indigo houses, and 183 small sugar plantations.

After the peace of Utrecht, Martinico began to emerge from that feeble state in which it had so long continued. The island then became the mart for all the windward French settlements. In the ports of it the neighbouring islands sold their produce, and bought the commodities of the mother country; and, in short,

Martinico became famous all over Europe. In 1736, <sup>Martinico</sup> there were on the island 447 sugar works; 11,953,232 coffee trees, 103,870 of cocoa: 2,068,480 plants of cotton, 39,400 of tobacco, 6750 of arnotto. The supplies for provisions consisted of 4,806,142 banana trees, 34,483,000 trenches of cassava; and 247 plots of potatoes and yams. The number of blacks amounted to 72,000 men, women, and children. Their labour had improved the plantations as far as was consistent with the consumption then made in Europe of American productions; and the annual exports from the island amounted to about 700,000l.

The connexions of Martinico with the other islands entitled her to the profits of commission, and the changes of transport; as she alone was in the possession of carriages. This profit might be rated at the tenth of the produce; and the sum total must have amounted to near 765,000l. This standing debt was seldom called in, and left for the improvement of their plantations. It was increased by advances in money, slaves, and other necessary articles; so that Martinico became daily more and more a creditor to the other islands, and thus kept them in constant dependence; while they all enriched themselves by her assistance.

The connexions of this island with Cape Breton, Canada, and Louisiana, procured a market for the ordinary sugars, the inferior coffee, the molasses, and rum, which would not sell in France. In exchange the inhabitants received salt fish, dried vegetables, deals, and some flour. In the clandestine trade on the coasts of Spanish America, consisting wholly of goods manufactured by the nation, she commonly made a profit of 90 per cent. on the value of about 175,000l. sent yearly to the caraccas, or neighbouring colonies.

So many prosperous engagements brought immense sums into Martinico. Upwards of 787,000l. were constantly circulated in that island with great rapidity; and this is perhaps the only country in the world where the specie has been so considerable as to make it a matter of indifference to them whether they dealt in gold, silver, or commodities. This extensive trade brought into the ports of Martinico annually 200 ships from France; 14 or 15 fitted out by the mother country for the coast of Guinca, 60 from Canada, 10 or 12 from the islands of Margareta and Trinidad; besides the English and Dutch ships that came to carry on a smuggling trade. The private navigation from the island to the northern colonies, to the Spanish continent, and to the windward islands, employed 120 vessels from 20 to 30 tons burden.

The war of 1744 put a stop to this prosperity. Not that the fault was in Martinico itself; its navy, constantly exercised, and accustomed to frequent engagements, which the carrying on a contraband trade required, was prepared for action. In less than six months, 40 privateers, fitted out at St Peter's, spread themselves about the latitude of the Caribbee islands. They signalized themselves in a manner worthy of the ancient freebooters; returning constantly in triumph, and laden with an immense booty. Yet, in the midst of these successes, an entire stop was put to the navigation of the colony, both to the Spanish coast and to Canada, and they were constantly disturbed even on their own coasts. The few ships that came from  
France,



*Martinico.* France, in order to compensate the hazards they were exposed to by the loss of their commodities, sold them at a very advanced price, and bought them at a very low one. By this means the produce decreased in value, the lands were ill cultivated, the works neglected, and the slaves perishing for want.

When every thing thus seemed tending to decay, the peace at last restored the freedom of trade, and with it the hopes of recovering the ancient prosperity of the island. The event, however, did not answer the pains that were taken to attain it. Two years had not elapsed after the cessation of hostilities, when the colony lost the contraband trade she carried on with the American Spaniards. This was owing to the substitution of register ships to the fleets; and thus were the attempts of the smugglers confined within very narrow bounds. In the new system, the number of ships was undetermined, and the time of their arrival uncertain: which occasioned a variation in the price of commodities unknown before; and from that time the smuggler, who only engaged in this trade from the certainty of a fixed and constant profit, would no longer pursue it, when it did not secure him an equivalent to the risks he ran. But this loss was not so sensibly felt by the colony, as the hardships brought upon them by the mother country. An unskilful administration clogged the reciprocal and necessary connexion between the islands and North America with so many formalities, that in 1755 Martinico sent but four vessels to Canada. The direction of the colonies, now committed to the care of ignorant and avaricious clerks, soon lost its importance, sunk into contempt, and was prostituted to venality. The debts which had been contracted, during a series of calamities, had not yet been paid off, when the war broke out afresh. After a series of misfortunes and defeats, the island fell into the hands of the British. It was restored, however, in July 1763, 16 months after it had been conquered; but deprived of all the necessary means of prosperity, that had made it of so much importance. For some years past, the contraband trade carried on to the Spanish coasts was almost entirely lost. The cession of Canada had precluded all hopes of opening again a communication, which had only been interrupted by temporary mistakes. The productions of the Grenades, St Vincent, and Dominica, which were now become British dominions, could no longer be brought into their harbours; and a new regulation of the mother country, which forbade her having any intercourse with Guadaloupe, left her no hopes from that quarter.

The colony, thus deprived of every thing as it were, and destitute, nevertheless contained, at the last survey, which was taken on the 1st of January 1770, in the compass of 28 parishes, 12,450 white people of all ages and of both sexes; 1814 free blacks or mulattoes; 70,553 slaves, and 443 fugitive negroes. The number of births in 1766, was in the proportion of one in 30 among the white people, and of one in 25 among the blacks. From this observation, if it were constant, it should seem that the climate of America is much more favourable to the propagation of the Africans than of the Europeans: since the former multiply still more in the labours and hardships of slavery, than the latter in the midst of plenty and freedom.

The consequence must be, that in process of time the increase of blacks in America will surpass that of the white men; and, perhaps, at last avenge this race of victims on the descendants of the oppressors.

The cattle of the colony consists of 8283 horses or mules; 12,376 head of horned cattle; 975 hogs; and 13,544 sheep or goats.

Their provisions are, 17,930,596 trenches of cassava; 3,509,048 banana trees, and 406 squares and a half of yams and potatoes.

Their plantations contain 11,444 squares of land, planted with sugar; 6,638,957 coffee trees; 871,043 cocoa trees; 1,764,807 cotton plants; 59,966 trees of cassia, and 61 of arnotto.

The meadows or savannahs take up 10,072 squares of land; there are 11,966 in wood, and 8448 uncultivated or forsaken.

The plantations which produce coffee, cotton, cocoa, and other things of less importance, are 1515 in number. There are but 286 for sugar. They employ 116 water-mills, 12 wind-mills, and 184 turned by oxen. Before the hurricane of the 13th of August 1766, there were 302 small habitations and 15 sugar-works more.

In 1760, France imported from Martinico, upon 202 trading vessels, 177,116 quintals of fine sugar, and 12,579 quintals of raw sugar; 68,518 quintals of coffee; 11,731 quintals of cocoa; 6048 quintals of cotton; 2518 quintals of cassia; 783 casks of rum; 307 hogheads of molasses; 150 pounds of indigo; 2147 pounds of preserved fruits; 47 pounds of chocolate; 282 pounds of rasped tobacco: 494 pounds of rope-yarn; 334 chests of liqueurs; 234 hogheads of molasses, &c. 451 quintals of wood for dyeing; and 12,108 hides in the hair. All these productions together have been bought in the colony itself, for 536,631l. 9s. 10d. It is true, that the colony has received from the mother country to the amount of 588,412l. 16s. 6d. of merchandize; but part of this has been sent away to the Spanish coasts, and another part has been conveyed to the English settlements.

The island is 16 leagues in length and 45 in circumference, leaving out the capes, some of which extend two or three leagues into the sea. It is very uneven, and intersected in all parts by a number of hills; which are mostly of a conical form. Three mountains rise above these smaller eminences. The highest bears the indelible marks of a volcano. The woods with which it is covered continually attract the clouds, which occasions noxious damps, and contributes to make it horrid and inaccessible; while the two others are in most parts cultivated. From these mountains issue the many springs that water the island. These waters, which flow in gentle streams, are changed into torrents on the slightest storm. Their qualities are derived from the soil over which they flow. In some places they are excellent; in others so bad, that the inhabitants are obliged to drink the water they have collected during the rainy season.

Of all the French settlements in the West Indies, Martinico is the most happily situated with regard to the winds which prevail in those seas. Its harbours possess the inestimable advantage of affording a certain shelter from the hurricanes which annoy these latitudes. The harbour of Fort Royal is one of the best in all

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Martinico  
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Martyr. the windward islands; and so celebrated for its safety, that, when it was open to the Dutch, their shipmasters had orders from the republic to take shelter there in June, July, and August, the three months in which the hurricanes are most frequent. The lands of the Lamentin, which are but a league distant, are the richest and most fertile in the whole island. The numerous streams which water this fruitful country, convey loaded canoes to a considerable distance from the sea. The protection of the fortifications secured the peaceable enjoyment of so many advantages; which, however, were balanced by a swampy and unwholesome soil. This capital of Martinico was also the rendezvous of the men of war; which branch of the navy has always oppressed the merchantmen. On this account, Fort Royal was an improper place to become the centre of trade, which was therefore removed to St Peter's. This little town, notwithstanding the fires that have four times reduced it to ashes, still contains 1700 houses. It is situated on the western coast of the island, on a bay, or inlet, which is almost circular. One part of it is built on the strand along the sea side, which is called the *anchorage*; and is the place destined for ships and warehouses. The other part of the town stands upon a low hill; it is called the *Fort*, from a small fortification that was built there in 1665, to check the seditions of the inhabitants against the tyranny of monopoly; but it now serves to protect the road from foreign enemies. These two parts of the town are separated by a rivulet.

The anchorage is at the back of a pretty high and steep hill. Shut up as it were by this hill, which intercepts the easterly winds, the most constant and most salubrious in these parts; exposed, without any refreshing breezes, to the scorching beams of the sun, reflected from the hill, from the sea, and the black sand on the beach; this place is extremely hot, and always unwholesome. Besides, there is no harbour; and the ships which cannot winter safely upon this coast are obliged to take shelter at Fort Royal. But these disadvantages are compensated by the conveniency of the road of St Peter's, for loading and unloading of goods; and by its situation, which is such that ships can freely go in and out at all times, and with all winds.

Martinico again fell into the hands of the British in 1794; but was restored to France by the treaty of peace in 1801.

MARTLETS, in *Heraldry*, little birds represented without feet; and used as a difference or mark of distinction for younger brothers, to put them in mind that they are to trust to the wings of virtue and merit, in order to raise themselves, and not to their feet, they having little land to set their foot on. See *HERALDRY*.

MARTYNIA, a genus of plants belonging to the didynamia class; and in the natural method ranking under the 10th order, *Personatae*. See *BOTANY Index*.

MARTYR, is one who lays down his life, or suffers death, for the sake of his religion. The word is Greek, *μαρτυρ*, and properly signifies "a witness." It is applied, by way of eminence, to those who suffer in witness of the truth of the gospel.

The Christian church has abounded in martyrs, and history is filled with surprising accounts of their singular constancy and fortitude under the cruellest torments human nature was capable of suffering. The primitive

Christians were accused by their enemies of paying a sort of divine worship to the martyrs. Of this we have an instance in the answer of the church of Smyrna to the suggestion of the Jews, who at the martyrdom of Polycarp, desired the heathen judge not to suffer the Christians to carry off his body, lest they should leave their crucified master, and worship him in his stead. To which they answered, "We can neither forsake Christ, nor worship any other: for we worship him as the Son of God; but love the martyrs as the disciples and followers of the Lord, for the great affection they have shown to their King and Master." A like answer was given at the martyrdom of Fructuosus in Spain. For when the judge asked Eulogius, his deacon, Whether he would not worship Fructuosus? as thinking, that, though he refused to worship the heathen idols, he might yet be inclined to worship a Christian martyr; Eulogius replied, "I do not worship Fructuosus, but him whom Fructuosus worships." The primitive Christians believed, that the martyrs enjoyed very singular privileges; that upon their death they were immediately admitted to the beatific vision, while other souls waited for the completion of their happiness till the day of judgement; and that God would grant chiefly to their prayers the hastening of his kingdom, and shortening the times of persecution.

The churches built over the graves of the martyrs, and called by their names, in order to preserve the memory of their sufferings, were distinguished by the title *martyrium confessio*, or *memoria*.

The festivals of the martyrs are of very ancient date in the Christian church, and may be carried back at least till the time of Polycarp, who suffered martyrdom about the year of Christ 168. On these days the Christians met at the graves of the martyrs, and offered prayers and thanksgivings to God for the examples they had afforded them: they celebrated the eucharist, and gave alms to the poor; which, together with a panegyric oration or sermon, and reading the acts of the martyrs, were the spiritual exercises of these anniversaries.

Of the sayings, sufferings, and deaths of the martyrs, though preserved with great care for the above purpose, and to serve as models to future ages, we have but very little left, the greatest part of them having been destroyed during that dreadful persecution which Dioclesian carried on for ten years with fresh fury against the Christians; for a most diligent search was then made after all their books and papers; and all of them that were found were committed to the flames. Eusebius, indeed, composed a martyrology, but it never reached down to us; and those since compiled are extremely suspected. From the eighth century downwards, several Greek and Latin writers endeavoured to make up the loss, by compiling, with vast labour, accounts of the lives and actions of the ancient martyrs, but which consist of little else than a series of fables: Nor are those records that pass under the name of Martyrology worthy of superior credit, since they bear the most evident marks both of ignorance and falsehood.

MARTYR, *Peter*, a famous divine, born at Florence in 1500. He studied philosophy and the languages at Padua and Bononia, was a regular Augustine in the monastery of Fiscoli, and was counted one of the



Martyrology.

best preachers in Italy. Zuinglius and Bucer's writings gave him a good opinion of the Protestants, and his conversation with Valdes confirmed it. He preached that doctrine at Rome in private; but, being impeached, fled to Naples, and thence to Lucca, where he brought over to the Protestant interest Emanuel Tremellius, Celsus, Martinengas, Paul Lasicius, and Jeremiah Zanchy. He was sent for to England by King Edward VI. and made professor of divinity at Oxford in 1549. In Queen Mary's reign he returned to Strasburg, and was present at the conference of Poissy. His sentiments were not the same with Calvin's about Christ's presence in the eucharist. He wrote a great number of works, and died in 1562.

**MARTYROLOGY**, a catalogue or list of martyrs, including the history of their lives and sufferings for the sake of religion. The term comes from *μαρτυρ* "witness," and *λογος* "discourse."

The martyrologies draw their materials from the calendars of particular churches, in which the several festivals dedicated to them are marked; and which seem to be derived from the practice of the ancient Romans, who inserted the names of heroes and great men in their fasti or public registers.

The martyrologies are very numerous, and contain many ridiculous and even contradictory narratives: which is easily accounted for, if we consider how many forged and spurious accounts of the lives of saints and martyrs appeared in the first ages of the church, which the legendary writers afterwards adopted without examining into the truth of them. However, some good critics, of late years, have gone a great way towards clearing the lives of the saints and martyrs from the monstrous heap of fiction they laboured under. See the article **LEGEND**.

The Martyrology of Eusebius of Caesarea was the most celebrated in the ancient church. It was translated into Latin by St Jerome; but the learned agree that it is not now extant. That attributed to Bede, in the eighth century, is of very doubtful authority; the names of several saints being there found who did not live till after the time of Bede. The ninth century was very fertile in martyrologies; then appeared that of Florus, subdeacon of the church at Lyons; who, however, only filled up the chasms in Bede. This was published about the year 830, and was followed by that of Waldemburtus, monk of the diocese of Treves, written in verse about the year 844, and this by that of Usuard, a French monk, and written by the command of Charles the Bald in 875, which last is the martyrology now ordinarily used in the Romish church. That of Rabanus Maurus is an improvement on Bede and Florus, written about the year 845; that of Notker, monk of St Gal, was written about the year 894. The martyrology of Ado, monk of Ferrieres, in the diocese of Treves, afterwards archbishop of Vienne, is a descendant of the Roman, if we may so call it; for Du Sollier gives its genealogy thus: The martyrology of St Jerome is the great Roman martyrology; from this was made the little Roman one printed by Rosweyde; of this little Roman martyrology was formed that of Bede, augmented by Florus. Ado compiled his in the year 858. The martyrology of Nevelon, monk of Corbie, written about the year 1089, is little more than an abridgement of that of Ado; Father Kir-

cher also makes mention of a Coptic martyrology preserved by the Maronites at Rome.

We have also several protestant martyrologies, containing the sufferings of the reformed under the papists, viz. an English martyrology, by J. Fox; with others by Clark, Bray, &c.

**MARTYROLOGY** is also used, in the Romish church, for a roll or register kept in the vestry of each church, containing the names of all the saints and martyrs, both of the universal church and of the particular ones of that city or monastery.

**MARTYROLOGY** is also applied to the painted or written catalogues in the Romish churches, containing the foundations, obits, prayers, and masses, to be said each day.

**MARVELL, ANDREW**, an ingenious writer in the 17th century, was bred at Cambridge. He travelled through the most polite parts of Europe, and was secretary to the embassy at Constantinople. His first appearance in public business at home was as assistant to Mr John Milton, Latin secretary to the protector. A little before the restoration, he was chosen by his native town, Kingston upon Hull, to sit in that parliament, which began at Westminster April 25th 1660; and is recorded as the last member of parliament who received the wages or allowance anciently paid to representatives by their constituents. He seldom spoke in parliament, but he had great influence without doors upon the members of both houses; and Prince Rupert had always the greatest regard for his advice. He made himself very obnoxious to the government by his actions and writings; notwithstanding which, King Charles II. took great delight in his conversation, and tried all means to win him over to his side, but in vain, nothing being ever able to shake his resolution. There were many instances of his firmness in resisting the offers of the court; but he was proof against all temptations. The king having one night entertained him, sent the lord treasurer Danby the next morning to find out his lodgings; which were then up two pair of stairs in one of the little courts in the Strand. He was busy writing, when the treasurer opened the door abruptly upon him. Surprised at the sight of so unexpected a visitor, Mr Marvell told his Lordship, "That he believed he had mistaken his way." Lord Danby replied, "Not, now I have found Mr Marvell;" telling him he came from his majesty, to know what he could do to serve him. Coming to a serious explanation, he told the lord treasurer, that he knew the nature of courts full well; that whoever is distinguished by a prince's favour, is certainly expected to vote in his interest. The Lord Danby told him, that his majesty had only a just sense of his merits, in regard to which he only desired to know if there was any place at court he could be pleased with. These offers, though urged with the greatest earnestness, had no effect upon him. He told the lord treasurer, that he could not accept of them with honour; for he must be either ungrateful to the king in voting against him, or false to his country in giving into the measures of the court. The only favour therefore he had to request of his majesty was, that he would esteem him as dutiful a subject as any he had, and more in his proper interest by refusing his offers than if he had embraced them. The Lord Danby finding no arguments

Martyrology, Marvell.



Marvel,  
Mary.

ments could prevail, told him, that the king had ordered a thousand pounds for him, which he hoped he would receive till he could think what farther to ask of his majesty. The last offer was rejected with the same steadfastness of mind as the first; though, as soon as the lord treasurer was gone, he was forced to send to a friend to borrow a guinea. He died not without strong suspicions of his being poisoned, in 1678, in the 58th year of his age. In 1688, the town of Kingston upon Hull contributed a sum of money to erect a monument over him in the church of St Giles in the Fields, where he was interred, and an epitaph composed by an able hand; but the ministry of that church forbade both the inscription and monument to be placed there. He wrote many ingenious pieces; as, *The Rehearsal* transposed; *A short Historical Essay concerning General Councils, Creeds, and Impositions in matters of religion, &c.*; also *Poems and Letters*.

*MARVEL of Peru, See MIRABILIS, BOTANY Index.*

MARY, the mother of our Saviour Jesus Christ, and a virgin at the time that she conceived him; daughter of Joachim and of Anna, of the tribe of Judah, and married to Joseph of the same tribe. The Scripture tells us nothing of her parents, not so much as their names, unless Heli mentioned by St Luke iii. 23. be the same with Joachim. All that is said concerning the birth of Mary and of her parents is only to be found in some apocryphal writings: which, however, are very ancient.

Mary was of the royal race of David, as was also her husband; 'A virgin, espoused to a man whose name was *Joseph*, of the house of David,' says our translation of St Luke i. 27. which translation Mr Whitby thinks might be better rendered thus: A virgin of the house of David, espoused to a man whose name was *Joseph*, and the virgin's name was *Mary*; because this agrees better with the words of the angel, "The Lord shall give him the throne of his father David," ver. 32. For since the angel had plainly told the virgin, that she should have this son without the knowledge of any man, it was not Joseph's but Mary's being of the house of David, that made David his father.

Mary was akin to the race of Aaron, since Elizabeth the wife of Zacharais was her cousin (ver. 36.) Mary very early made a vow of chastity, and engaged herself to perpetual virginity. The *Proto-evangelium* of St James tells us, that she was consecrated to the Lord, and offered in the temple from her earliest youth; and that the priests gave her Joseph for a spouse, who was a holy and venerable old man, whom Providence appointed for his purpose by a miracle, the rod which he commonly carried having grown green and flourished as Aaron's did formerly. He espoused Mary, not to live with her in the ordinary use of marriage, and to have children by her, but only that he might be the guardian of her virginity. Though these circumstances are not to be relied on as certain, yet Mary's resolution of continency, even in a married state, cannot be called in question, since her virginity is attested by the gospel, and that herself speaking to the angel, who declared to her that she should become the mother of a son, told him that "she knew not a man," (ver. 34.), or that she lived in continency with her husband: for which reason,

when Joseph perceived her pregnancy, he was extremely surpris'd at it, knowing the mutual resolution they had agreed to of living in continence though in a state of marriage.

Mary.

When Mary was ready to lie in, an edict was published by Cæsar Augustus, which decreed, that all the subjects of the empire should go to their own cities, there to have their names registered according to their families. Thus Joseph and Mary, who were both of the lineage of David, betook themselves to the city of Bethlehem, from whence was the original of their family. But while they were in this place, the time being fulfilled in which Mary was to be delivered, she brought forth her first-born son. She wrapped him in swaddling-clothes, and laid him in the manger of the stable or cavern whither they had retired: for they could find no place in the public inn, because of the great concourse of people that were then at Bethlehem on the same occasion; or they were forced to withdraw into the stable of the inn, not being able to get a more convenient lodging, because of the multitude of people then at Bethlehem.

At the same time the angels made it known to the shepherds who were in the fields near Bethlehem, and who came in the night to see Mary and Joseph and the child lying in the manger, and to pay him their tribute of adoration. Mary took notice of all these things, and laid them up in her heart, (Luke ii. 19. Matth. ii. 8, 9, 10, 11, &c.) A few days after, the magi or wise men came from the east, and brought to Jesus the mysterious presents of gold, frankincense, and myrrh; after which being warned by an angel that appeared to them in a dream, they returned into their own country by a way different from that by which they came. But the time of Mary's purification being come, that is forty days after the birth of Jesus, Mary went to Jerusalem (Luke ii. 21.), there to present her son in the temple, and there to offer the sacrifice appointed by the law for the purification of women after childbirth. There was then at Jerusalem an old man named *Simeon*, who was full of the Holy Ghost, and who had received a secret assurance that he should not die before he had seen Christ the Lord. He came then into the temple by the influence of the spirit of God, and taking the little Jesus within his arms, he blessed the Lord: and afterwards addressing himself to Mary, he told her, 'That this child should be for the rising and falling of many in Israel, and for a sign which should be spoken against; even so far as that her own soul should be pierced as with a sword, that the secret thoughts in the hearts of many might be discovered.' Afterwards when Joseph and Mary were preparing to return to their own country of Nazareth (Matth. ii. 13, 14.), Joseph was warned in a dream to retire into Egypt with Mary and the child, because Herod had a design to destroy Jesus. Joseph obeys the admonition, and they continued in Egypt till after the death of Herod; upon which he and Mary returned to Nazareth, not daring to go to Bethlehem because it was in the jurisdiction of Archelaus the son and successor of Herod the Great. Here the holy family took up their residence, and remained till Jesus began his public ministry. We read of Mary being present at the marriage of Cana in Galilee, with her son Jesus and his disciples (John ii.



Mary, 1, 2, &c.) On which occasion Jesus having turned water into wine, being the first public miracle that he performed, he went from thence to Capernaum with his mother and his brethren, or his parents and disciples: and this seems to be the place where the holy virgin afterwards chiefly resided. However, St Epiphanius thinks that she followed him everywhere during the whole time of his preaching; though we do not find the evangelists make any mention of her among the holy women that followed him and ministered to his necessities. The Virgin Mary was at Jerusalem at the last passover that our Saviour celebrated there; she saw all that was transacted against him, followed him to Calvary, and stood at the foot of his cross with a constancy worthy of the mother of God. There Jesus seeing his mother and his beloved disciple near her, he said to his mother, "Woman, behold thy son;" and to the disciple, "Behold thy mother." And from that hour the disciple took her home to his own house. It is not to be doubted, but that our Saviour appeared to his mother immediately after his resurrection; and that she was the first, or at least one of the first, to whom he vouchsafed this great consolation. She was with the apostles at his ascension, and continued with them at Jerusalem, expecting the coming of the Holy Ghost (Acts i. 14.). After this, she dwelt in the house of St John the Evangelist, who took care of her as of his own mother. It is thought that he took her along with him to Ephesus, where she died in an extreme old age. There is a letter of the oecumenical council of Ephesus, importing, that in the fifth century it was believed she was buried there. Yet this opinion was not so universal, but that there are authors of the same age who think she died and was buried at Jerusalem.

MARY, *Magdalen*, who has been generally confounded with Mary the sister of Martha and Lazarus, but very improperly, was probably that sinner mentioned by St Luke, chap. vii. 36. 37. &c. whose name he does not tell us. There are some circumstances sufficient to convince us, that she is the same whom he calls *Mary Magdalen* in chap. viii. 2. and from whom he says Jesus drove out seven devils. Jesus having healed the widow's son of Nain, entered into the city, and there was invited to eat by a Pharisee named *Simon*. While he was at table, a woman of a scandalous life came into the house, having an alabaster box full of perfumed oil, and standing upright behind Jesus, and at his feet, for he was lying at table on a couch after the manner of the ancients, she poured her perfume on his feet, kissed them, watered them with her tears, and wiped them with her hair. The Pharisee observing this, said within himself, If this man were a prophet, he would know who this woman is that touches him, that she is one of a wicked life. Then Jesus, who knew the bottom of his heart, illustrated her case by a parable; and concluded with answering the woman, that her sins were forgiven her. In the following chapter, St Luke tells us, that Jesus, in company with his apostles, preached the gospel from city to city: and that there were several women whom he had delivered from evil spirits, and had cured of their infirmities, among whom was Mary called *Magdalen*, out of whom went seven devils. This,

it must be owned, is no positive proof that the sinner mentioned before was Mary Magdalen; however, it is all we have in support of this opinion: An opinion which has been ably controverted by others. Mary Magdalen had her surname, it is thought, from the town of Magdalia in Galilee. Lightfoot believes that this Mary is the same with Mary the sister of Lazarus. Magdalen is mentioned by the evangelists among the women that followed our Saviour, to minister to him according to the custom of the Jews. St Luke viii. 2. and St Mark xvi. 9. observe, that this woman had been delivered by Jesus Christ from seven devils. This some understand in the literal sense; but others take it figuratively, for the crimes and wickedness of her past life (supposing her to be the sinner first above mentioned), from which Christ had rescued her. Others maintain, that she had always lived in virginity; and consequently they make her a different person from the sinner mentioned by St Luke: and by the seven devils of which she was possessed, they understand no other than a real possession, which is not inconsistent with a holy life. This indeed is the most probable opinion, and that which has been best supported. In particular, the author of a "Letter to Jonas Hanway" on the subject of Magdalen House, published in 1758, has shown by a variety of learned remarks, and quotations both from the Scriptures and from the best commentators, that Mary Magdalen was not the sinner spoken of by St Luke, but on the contrary that she "was a woman of distinction, and very easy in her worldly circumstances. For a while, she had laboured under some bodily indisposition, which our Lord miraculously healed, and for which benefit she was ever after very thankful. So far as we know, her conduct was always regular and free from censure; and we may reasonably believe, that after her acquaintance with our Saviour it was edifying and exemplary. I conceive of her (continues our author) as a woman of a fine understanding, and known virtue and discretion, with a dignity of behaviour becoming her age, her wisdom, and her high station: by all which, she was a credit to him whom she followed as her master and benefactor. She showed our Lord great respect in his life, at his death, and after it; and she was one of those to whom he first showed himself after his resurrection."

Mary Magdalen followed Christ in the last journey that he made from Galilee to Jerusalem, and was at the foot of the cross with the holy virgin (John xix. 25. Mark xv. 47.) After which she returned to Jerusalem to buy and prepare the perfumes, that she might embalm him after the sabbath was over which was then about to begin. All the sabbath day she remained in the city; and the next day early in the morning she went to the sepulchre, along with Mary the mother of James and Salome (Mark xvi. 1, 2. Luke xxiv. 1, 2.) On the way, they inquired of one another, who should take away the stone from the mouth of the sepulchre, and were sensible of a great earthquake. This was the token of our Saviour's resurrection. Being come to his tomb, they saw two angels, who informed them that Jesus was risen. Upon this Mary Magdalen runs immediately to Jerusalem, and acquaints the apostles with this good news, returning herself



Mary. herself to the sepulchre. Peter and John came also, and were witnesses that the body was no longer there. They returned: but Mary stayed, and stooping forward to examine the inside of the tomb, she there saw two angels sitting, one at the head and the other at foot of the tomb; and immediately afterwards, upon turning about, she beheld the Lord himself. She would have cast herself at his feet to kiss them. But Jesus said to her, "Touch me not, for I am not yet ascended to my Father." As if he had said, "You shall have leisure to see me hereafter; go now to my brethren, my apostles, and tell them I am going to ascend to my God and to their God, to my Father and to their Father." Thus had Mary the happiness of first seeing our Saviour after his resurrection. (See Math. xxxviii. 5. &c. Mark xvi. 6. &c. John xx. 11, 17.)

She returned then to Jerusalem and told the apostles that she had seen the Lord, that she had spoken to him, and told them what he had said to her. But at first they did not believe her, till her report was confirmed by many other testimonies.—This is what the gospel informs us concerning Mary Magdalen, different from Mary the sister of Martha, though she has been often called by this name. For, as to the pretended History of Mary Magdalen, which is said to have been written in Hebrew by Marcella servant of Martha; this can only relate to Mary sister of Martha, and besides is a mere piece of imposture.

MARY, queen and tyrant of England, was eldest daughter of Henry VIII. by his first wife Catharine of Spain, and born at Greenwich in February 1517. Her mother was very careful of her education, and provided her with tutors to teach her what was fitting. Her first preceptor was the famous Linacre, who drew up for her use the Rudiments of Gram-

mar, and afterwards *De emendata Aruſtura Latini sermonis libri sex*. Linacre dying when she was but six years old, Ludovicus Vives, a very learned man of Valenza in Spain, was her next tutor; and he composed for her *De ratione studii puerilis*. Under the direction of these excellent men, she became so great a mistress of Latin, that Erasmus commends her for her epistles in that language. Towards the end of her father's reign, at the earnest solicitation of Queen Catharine Parr, she undertook to translate Erasmus's Paraphrase on the gospel of St John; but being cast into sickness, as Udall relates, partly by overmuch study in this work, after she had made some progress therein, she left the rest to be done by Dr Mailet her chaplain. This translation is printed in the first volume of Erasmus's Paraphrase upon the New Testament, London, 1548, folio; and before it is a Preface, written by Udall, the famous master of Eton school, and addressed to the queen dowager (A).—Had she been educated in Spain, however, and an inquisitor had been her preceptor, she could not have imbibed more strongly the bloody principles of Romish persecution; and to the eternal disgrace of the English prelacy, though the reformation had taken root in both universities, she found English bishops ready to carry her cruel designs to subvert it into effectual execution. King Edward her brother dying the 6th of July 1553, she was proclaimed queen the same month, and crowned in October by Stephen Gardiner bishop of Winchester. Upon her accession to the throne, she declared, in her speech to the council, that she would not persecute her Protestant subjects: but in the following month, she prohibited preaching without a special license; and before the expiration of three months, the Protestant bishops were

(A) As this preface contains many reflections which may very much edify the females of this age, we shall for their sakes here transcribe a part of it. Mr Udall takes occasion in it to observe to her majesty, "The great number of noble women at that time in England, not only given to the study of human sciences and strange tongues, but also so thoroughly expert in the Holy Scriptures, that they were able to compare with the best writers, as well in editing and penning of godly and fruitful treatises, to the instruction and edifying of realms in the knowledge of God, as also in translating good books out of Latin or Greek into English, for the use and commodity of such as are rude and ignorant of the said tongues. It was now (he said) no news in England to see young damsels in noble houses, and in the courts of princes, instead of cards and other instruments of idle trifling, to have continually in their hands either psalms, homilies, and other devout meditations, or else Paul's epistles, or some book of holy scripture matters, and as familiarly both to read or reason thereof in Greek, Latin, French, or Italian, as in English. It was now a common thing to see young virgins so trained in the study of good letters, that they willingly set all other vain pastimes at nought for learning's sake. It was now no news at all to see queens and ladies of most high estate and progeny, instead of courtly dalliance, to embrace virtuous exercises of reading and writing, and with most earnest study, both early and late, to apply themselves to the acquiring of knowledge, as well in all other liberal arts and disciplines, as also most especially of God and his holy word. And in this behalf (says he), like as to your highness, as well as for composing and setting forth many godly psalms, and divers other contemplative meditations, as also for causing these paraphrases to be translated into our vulgar tongue, England can never be able to render thanks sufficient; so may it never be able, as her deserts require, enough to praise and magnify the most noble, the most virtuous, the most witty, and the most studious Lady Mary's grace, for taking such pain and travail in translating this Paraphrase of Erasmus upon the gospel of St John.—What could be a more plain declaration of her most constant purpose to promote God's word, and the free grace of his gospel?" &c. Mr Udall was mistaken; she never meant any such thing: for soon after her accession to the throne, a proclamation was issued for calling in and suppressing this very book, and all others that had the least tendency towards furthering the reformation. And Mr Walpole is of opinion, that the sickness which came upon her while she was translating St John, was all affected; "for (says he) she would not so easily have been cast into sickness, had she been employed on the Legends of St Teresa or St Catharine of Sienna."



Mary. were excluded the house of lords, and all the statutes of Edward VI. respecting the Protestant religion were repealed. In July 1554 she was married to Philip prince of Spain, eldest son of the emperor Charles V.; and now began that persecution against the Protestants for which her reign is so justly infamous. Some have supposed, that the queen was herself of a compassionate and humane disposition; and that most of those barbarities were transacted by her bishops without her knowledge or privity. Without her knowledge and privity they could not be: it would be a better defence of her to say, that a strict adherence to a false religion, and a conscientious observance of its pernicious and cruel dictates, overruled and got the better of that goodness of temper which was natural to her. But neither can this plea be reasonably admitted by any one, who considers her unkind and inhuman treatment of her sister the Lady Elizabeth; her admitting a council for the taking up and burning of her father's body; her most ungrateful and perfidious breach of promise with the Suffolk men; her ungenerous and barbarous treatment of Judge Hales, who had strenuously defended her right of succession to the crown; and of Archbishop Cranmer, who in reality had saved her life. Shall we excuse all this by saying, *Tantum religio potuit suadere malorum?* Her obligations to Cranmer deserve to be more particularly set forth. Burnet says, "that her firm adherence to her mother's cause and interest, and her backwardness in submitting to the king her father, were thought crimes of such a nature by his majesty, that he came to a resolution to put her openly to death: and that when all others were unwilling to run any risk in saving her, Cranmer alone ventured upon it. In his gentle way he told the king "that she was young and indiscreet, and therefore it was no wonder if she obstinately adhered to that which her mother and all about her had been infusing into her for many years; but that it would appear strange, if he should for this cause so far forget the father, as to proceed to extremities with his own child; that if she was separated from her mother and her people, in a little time there might be ground gained on her; but that to take away her life, would raise horror through all Europe against him;" by which means he preserved her.—Along with Archbishop Cranmer, who had thus saved her life, the bishops Ridley and Latimer were also condemned for heresy at Oxford, and afterwards burnt. In 1556, the persecution became general; and Protestants of all ranks and ages, and of both sexes, fell victims to papal fury. It is observable, likewise, that the same perfidious violation of promises and treaties prevailed in the queen's council, with respect to public affairs. By the treaty of marriage concluded between the queen and Philip, it was expressly stipulated that England should not be engaged in any wars with France on account of Spain; yet in 1557, Philip who had brought immense sums of money into England, procured an offensive and defensive alliance against France, from the English administration, and 8000 of the queen's choicest troops were sent over to the assistance of the Spaniards in the Low Countries: the loss of Calais to the French was the first fruit of this war; and some assert, that upon this single occasion the queen showed a strong attachment to her na-

tive country, lamenting this stroke so deeply, that it occasioned her death; but it is better authenticated that she was carried off by an epidemic fever, which raged so violently that it did not leave a sufficient number of men in health to get in the harvest. She had long, however, been a prey, if not to remorse, yet to disappointment and chagrin, arising from various cross accidents, such as want of children, and the absence and unkindness of Philip consequent thereupon. Her death happened Nov. 7. 1558, in the 43d year of her age, after a reign of five years, four months, and eleven days. There are some things of her writing still extant. Strype has preserved three prayers or meditations of hers: the first, "Against the Assaults of Vice;" the second, "A Meditation touching Adversity;" the third, "A Prayer to be read at the Hour of Death." In Fox's "Acts and Monuments" are printed eight of her letters to King Edward and the lords of the council, on her nonconformity, and on the imprisonment of her chaplain Dr Mallet. In the *Sylloge epistolarum* are several more of her letters, extremely curious: one of her delicacy in never having written but to three men; one of affection for her sister; one after the death of Anne Boleyn; and one very remarkable of Cromwell to her. In "Haynes's State Papers," are two in Spanish, to the emperor Char. V. There is also a French letter, printed by Strype from the Cottonian library, in answer to a haughty mandate from Philip, when he had a mind to marry the Lady Elizabeth to the duke of Savoy, against the queen's and princess's inclination: it is written in a most abject manner, and a wretched style.

MARY of Medicis, wife of Henry IV. king of France, was declared sole regent of the kingdom in 1610, during the conternation which the assassination of that beloved king had occasioned. By her ambitious intrigues, the nation lost all its influence abroad, and was torn to pieces at home by contending factions. After several vicissitudes of fortune, she was abandoned by her son Louis XIII. whose reign had been constantly disturbed by the civil commotions she had occasioned; and died in indigence at Brussels in 1642, aged 68. She built the superb palace of Luxembourg at Paris, and embellished that city with aqueducts and other ornaments.

MARY queen of Scotland, daughter of James V. was born in the royal palace of Linlithgow on the 8th of December 1542. Her mother was Mary, the eldest daughter of Claude duke of Guise, and widow of Louis duke of Longueville. Her father dying a few days after her birth, she scarcely existed before she was hailed queen.

The government of a queen was unknown in Scotland; and the government of an infant queen could not command much respect from martial and turbulent nobles, who exercised a kind of sovereignty over their own vassals; who looked upon the most warlike of their monarchs in hardly any other light than as the chief of the aristocracy; and who, upon the slightest disgusts, were ever ready to fly into rebellion, and to carry their arms to the foot of the throne. James had not even provided against the disorders of a minority, by committing to proper persons the care of his daughter's education, and the administration of affairs in her name. The former of these objects, however,



Mary.

however, was not neglected, though the regency of the kingdom was intrusted to very feeble hands. At six years of age Mary was conveyed to France, where she received her education in the court of Henry II. The opening powers of her mind, and her natural dispositions, afforded early hopes of capacity and merit. After being taught to work with her needle and in tapestry, she was instructed in the Latin tongue; and she is said to have understood it with an accuracy, which is in this age very uncommon in persons of her sex and elevated rank, but which was not then surprising, when it was the fashion among great ladies to study the ancient languages. In the French, the Italian, and the Spanish tongues, her proficiency was still greater, and she spoke them with equal ease and propriety. She walked, danced, and rode with enchanting gracefulness; and she was qualified by nature, as well as by art, to attain to distinction in painting, poetry, and music. To accomplish the woman, was not, however, the sole object of her education. Either she was taught, or she very early discovered, the necessity of acquiring such branches of knowledge as might enable her to discharge with dignity and prudence the duties of a sovereign; and much of her time was devoted to the study of history, in which she delighted to the end of her life.

Whilst Mary resided in the court of Henry II. her personal charms made a deep impression on the mind of the Dauphin. It was in vain that the constable Montmorency opposed their marriage with all his influence. The importance of her kingdom to France, and the power of her uncles the princes of Lorraine, were more than sufficient to counteract his intrigues; and the Dauphin obtained the most beautiful princess in Christendom.

Though this alliance placed the queen of Scotland in the most conspicuous point of view, in the politest court of Europe, and drew to her those attentions which are in the highest degree pleasing to a female mind in the gaiety of youth; it may yet be considered as having accidentally laid the foundation of the greatest part of her future misfortunes. Elizabeth, who now swayed the sceptre of England, had been declared illegitimate by an act of parliament: and though the English Protestants paid no regard to a declaration which was compelled by the tyrannic violence of Henry VIII. and which he himself had indeed rendered null by calling his daughter to the throne after her brother and elder sister; yet the papists both at home and abroad had objections to the legitimacy of Elizabeth's birth, founded on principles which with them had greater weight than the acts of any human legislature. Mary was unquestionably the next heir in regular succession to the English throne, if Elizabeth should die without legitimate issue; and upon her marriage to the Dauphin, she was induced by the persuasion of her uncles, partly by the authority of the French king, and no doubt partly by her own ambition, to assume the title and arms of queen of England and Ireland. These, indeed, she forebore as soon as she became her own mistress; but the having at all assumed them was an offence which Elizabeth could never forgive, and which rankling in her bosom made her many years afterwards pursue the unhappy queen of Scots to the block.

Henry II. dying soon after the marriage of the

Dauphin and Mary, they mounted the throne of France. In that elevated station, the queen did not fail to distinguish herself. The weakness of her husband served to exhibit her accomplishments to the greatest advantage; and in a court where gallantry to the sex, and the most profound respect for the person of the sovereign, were inseparable from the manners of a gentleman, she learned the first lessons of royalty. But this scene of successful grandeur and unmixed felicity was of short duration. Her husband Francis died unexpectedly after a short reign of sixteen months. Regret for his death, her own humiliation, the disgrace of her uncles the princes of Lorraine, which instantly followed, and the coldness of Catharine of Medicis the queen mother, who governed her son Charles IX. plunged Mary into inexpressible sorrow. She was invited to return to her own kingdom, and she tried to reconcile herself to her fate.

She was now to pass from a situation of elegance and splendour to the very reign of incivility and turbulence, where most of her accomplishments would be utterly lost. Among the Scots of that period, elegance of taste was little known. The generality of them were sunk in ignorance and barbarism; and what they termed religion, dictated to all a petulant rudeness of speech and conduct to which the queen of France was wholly unaccustomed. During her minority and absence, the protestant religion had gained a kind of establishment in Scotland; obtained, indeed, by violence, and therefore liable to be overturned by an act of the sovereign and the three estates in parliament. The queen, too, was unhappily of a different opinion from the great body of her subjects, upon that one topic, which among them actuated almost every heart, and directed almost every tongue. She had been educated in the church of Rome, and was strongly attached to that superstition: Yet she had either moderation enough in her spirit, or discretion enough in her understanding, not to attempt any innovation in the prevailing faith of Protestantism. She allowed her subjects the full and free exercise of their new religion, and only challenged the same indulgence for her own. She contrived to attach to her, whether from his heart or only in appearance, her natural brother, the prior of St Andrew's; a man of strong and vigorous parts, who, though he had taken the usual oath of obedience to the pope, had thrown off his spiritual allegiance, and placed himself at the head of the reformers. By his means she crushed an early and formidable rebellion; and in reward for his services conferred upon him a large estate, and created him earl of Murray. For two or three years her reign was prosperous, and her administration applauded by all her subjects except the Protestant preachers; and had she either remained unmarried, or bestowed her affections upon a more worthy object, it is probable that her name would have descended to posterity among those of the most fortunate and the most deserving of Scottish monarchs.

But a queen, young, beautiful, and accomplished, an ancient and hereditary kingdom, and the expectation of a mightier inheritance, were objects to excite the love and ambition of the most illustrious personages. Mary, however, who kept her eye steadily fixed on the English succession, rejected every offer of a foreign alliance; and, swayed at first by prudential motives,

Mary.



Mary.

motives, and afterwards by love the most excessive, she gave her hand to Henry Stuart lord Darnley, the son of the earl of Lenox. This nobleman was, after herself, the nearest heir to the crown of England; he was likewise the first in succession after the earl of Arran to the crown of Scotland; and it is known that James V. had intended to introduce into his kingdom the Salique law, and to settle the crown upon Lenox in preference to his own daughter. These considerations made Mary solicitous for an interview with Darnley; and at that interview love stole into her heart, and effaced every favourable thought of all her other suitors. Nature had indeed been lavish to him of her kindness. He was tall of stature; his countenance and shapes were beautiful and regular; and, amidst the masks and dancing with which his arrival was celebrated, he shone with uncommon lustre. But the bounty of nature extended not to his mind. His understanding was narrow; his ambition excessive; his obstinacy inflexible; and under the guidance of no fixed principle, he was inconstant and capricious. He knew neither how to enjoy his prosperity nor how to ensure it.

On the 29th of July 1565, this ill-fated pair were married; and though the queen gave her husband every possible evidence of the most extravagant love; though she infringed the principles of the constitution to confer upon him the title of king; and though she was willing to share with him all the offices, honours, and dignities of royalty—he was not satisfied with his lot, but soon began to clamour for more power. He had not been married seven months, when he entered into a conspiracy to deprive Mary of the government, and to seat himself on her throne. With this view he headed a band of factious nobles, who entered her chamber at night; and though she was then far advanced in her pregnancy, murdered her secretary in her presence, whilst one of the ruffians held a cocked pistol to her breast. Such an outrage, together with his infidelity and frequent amours, could not fail to alienate the affections of a high spirited woman, and to open her eyes to those defects in his character which the ardors of love had hitherto prevented her from seeing. She sighed and wept over the precipitation of her marriage: but though it was no longer possible to love him, she still treated him with attention and respect, and laboured to fashion him to the humour of her people.

This was labour in vain. His preposterous vanity and aspiring pride roused the resentment and the scorn of the nobles: his follies and want of dignity made him little with the people. He deserted the conspirators with whom he had been leagued in the assassination of the secretary; and he had the extreme impudence to threaten publicly the earl of Murray, who, from his talents and his followers, possessed the greatest power of any man in the kingdom. The consequence was, that a combination was formed for the king's destruction; and, on the 10th day of February 1567, the house in which he then resided was early

in the morning blown up with gunpowder, and his dead and naked body, without any marks of violence, was found in an adjoining field.

Such a daring and atrocious murder filled every mind with horror and astonishment. The queen, who had been in some measure reconciled to her husband, was overwhelmed with grief, and took every method in her power to discover the regicides; but for some days nothing appeared which could lead to the discovery. Papers indeed were posted on the most conspicuous places in Edinburgh, accusing the earl of Bothwell of the crime; and rumours were industriously circulated that his horrid enterprise was encouraged by the queen. Conscious, it is to be presumed, of her own innocence, Mary was the less disposed to believe the guilt of Bothwell, who was accused as having only acted as her instrument; but when he was charged with the murder by the earl of Lennox, she instantly ordered him on his trial. Through the management of the earl of Morton and others, who were afterwards discovered to have been partners in his guilt, Bothwell was acquitted of all share and knowledge of the king's murder; and what is absolutely astonishing, and shows the total want of honour at that time in Scotland, this flagitious man procured, by means of the same treacherous friends, a paper signed by the majority of the nobles, recommending him as a fit husband for the queen!

Armed with this instrument of mischief, which he weakly thought sufficient to defend him from danger, Bothwell soon afterwards seized the person of his sovereign, and carried her a prisoner to his castle at Dunbar. It has indeed been alleged by the enemies of the queen, that no force was employed on the occasion; that she was seized with her own consent: and that she was even privy to the subscribing of the bond by the nobles. But it has been well observed by one of her able vindicators (A), that "her previous knowledge of the bond, and her acquiescence in the seizure of her person, are two facts in apparent opposition to each other. Had the queen acted in concert with Bothwell in obtaining the bond from the nobles, nothing remained, but, under the sanction of their unanimous address, to have proceeded directly to the marriage. Instead of which, can we suppose her so weak as to reject that address, and rather *choose* that Bothwell should attempt to seize and carry her off by violence?—an attempt which many accidents might frustrate, and which at all events could not fail to render him or both of them odious to the whole nation. Common sense, then, as well as candour, must induce us to believe, that the scheme of seizing the queen was solely the contrivance of Bothwell and his associates, and that it was really by force that she was carried to Dunbar." Being there kept a close prisoner for 12 days; having, as there is reason to believe, actually suffered violence on her person; perceiving no appearance of a rescue; and being shown the infamous bond of the nobles; Mary promised to receive her ravisher for a husband, as in her opinion the only refuge for

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(A) *Tytler's Dissertation on the Marriage of Queen Mary with the earl of Bothwell*: Transactions of the Society of Antiquaries of Scotland, vol. 1.



Mary. for her injured honour. Without condemning with asperity this compliance of the queen, it is impossible not to recollect the more dignified conduct which Richardson attributes in similar circumstances to his Clarissa; and every man who feels for the sufferings, and respects the memory of Mary, must regret that she had not fortitude to resist every attempt to force upon her as a husband the profligate and audacious villain who had offered her such an insult as no virtuous woman ought ever to forgive. This, however, is only to regret that she was not more than human; that she who possessed so many perfections, should have had them blended with one defect. "In the irretrievable situation of her affairs, let the most severe of her sex say what course was left for her to follow? Her first and most urgent concern was to regain her liberty. That probably she attained by promising to be directed by the advice of her council, where Bothwell had nothing to fear." The marriage, thus inauspiciously contracted, was solemnized on the 15th of May 1567; and it was the signal for revolt to Morton, Lethington, and many of the other nobles, by whose wicked and relentless policy it had been chiefly brought about, and who had bound themselves to employ their swords against all persons who should presume to disturb so desirable an event.

As Bothwell was justly and universally detested, and as the rebels pretended that it was only against him and not against their sovereign that they had taken up arms, troops flocked to them from every quarter. The progress and issue of this rebellion will be seen in our history of SCOTLAND: suffice it to say here, that upon the faith of promises the most solemn, not only of personal safety to herself, but of receiving as much honour, service, and obedience, as ever in any former period was paid by the nobility to the princes her predecessors, the unhappy queen delivered herself into the hands of her rebels, and persuaded her husband to fly from the danger which in her apprehension threatened his life. These promises were instantly violated. The faithless nobles, after insulting their sovereign in the cruellest manner, hurried her as a prisoner to a castle within a lake, where she was committed to the care of that very woman who was the mother of her bastard brother; who, with the natural insolence of a whore's meanness, says Mr Whitaker, asserted the legitimacy of her own child and the illegitimacy of Mary; and who actually carried the natural vulgarity of a whore's impudence so far, as to strip her of all her royal ornaments, and to dress her like a mere child of fortune in a coarse brown cassock.

In this distress the queen's fortitude and presence of mind did not forsake her: She contrived to make her escape from her prison, and soon found herself at the head of 6000 combatants. This army, however, was defeated; and, in opposition to the advice and entreaties of all her friends, she hastily formed the resolution of taking *refuge in England*. The archbishop of St Andrew's in particular accompanied her to the border; and when she was about to quit her own kingdom, he laid hold of her horse's bridle, and on his knees conjured her to return: but Mary proceeded, with the utmost reliance on the friendship of Elizabeth, which had been offered to her when she was a

prisoner, and of the sincerity of which she harboured not a doubt. Mary.

That princess, however, who had not yet forgotten her assumption of the title and arms of queen of England, was now taught to dread her talents, and to be envious of her charms. She therefore, under various pretences, and in violation not only of public faith, but even of the common rights of hospitality, kept her a close prisoner for 19 years: encouraged her rebellious subjects to accuse her publicly of the murder of her husband: allowed her no opportunity of vindicating her honour: and even employed venal scribblers to blast her fame. Under this unparalleled load of complicated distress, Mary preserved the magnanimity of a queen, and practised with sincerity the duties of a Christian. Her sufferings, her dignified affability, and her gentleness of disposition, gained her great popularity in England, especially among the Roman Catholics; and as she made many attempts to procure her liberty, and carried on a constant correspondence with foreign powers, Elizabeth became at last so much afraid of her intrigues, that she determined to cut her off, at whatever hazard. With this view she prevailed upon her servile parliament to pass an act which might make Mary answerable for the crimes of all who should call themselves her partisans; and upon that flagitious statute she was tried as a traitor concerned in the conspiracy of Babington: (See SCOTLAND). Though the trial was conducted in a manner which would have been illegal even if she had been a subject of England, and though no certain proof appeared of her connexion with the conspirators, she was, to the amazement of Europe, condemned to suffer death.

The fair heroine received her sentence with great composure; saying to those by whom it was announced, "The news you bring cannot but be most welcome, since they announce the termination of my miseries. Nor do I account that soul to be deserving of the felicities of immortality, which can shrink under the sufferings of the body, or scruple the stroke that sets it free." On the evening before her execution, for which, on the succeeding morn, she prepared herself with religious solemnity and perfect resignation, she ordered all her servants to appear before her, and drank to them. She even condescended to beg their pardon for her omissions or neglects; and she recommended it to them to love charity, to avoid the unhappy passions of hatred and malice, and to preserve themselves steadfast in the faith of Christ. She then distributed among them her money, her jewels, and her clothes, according to their rank or merit. She wrote her will with her own hand, constituting the duke of Guise her principal executor; and to the king and queen of France she recommended her son, provided he should prove worthy of their esteem.—In the castle of Fotheringay she was beheaded on the 8th of February 1587, in the 45th year of her age; and her body, after being embalmed and committed to a leaden coffin, was buried with royal pomp and splendour in the cathedral of Peterborough. Twenty years afterwards her bones were, by order of her son and only child King James I. removed to Westminster, and deposited in their proper place among the kings of England.



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The general character of Mary, which in the regular order of biography should now be laid before the reader, has furnished matter of controversy for 200 years.—She is universally allowed to have had considerable talents, and a mind highly cultivated. By one party she is painted with more virtues and with fewer defects than almost any other woman of the age in which she lived. By another, she is represented as guilty of the grossest crimes which a woman can commit—adultery and the murder of her husband. By all it is confessed, that, previous to her connexion with the earl of Bothwell, her life as a Christian was exemplary, and her administration as a queen equitable and mild; and it has never been denied that she bore her tedious sufferings with such resignation and fortitude as are seldom found united with conscious guilt. These are strong presumptions of her innocence. The moral characters of men change by degrees; and it seems hardly consistent with the known principles of human nature, that any person should at once plunge deliberately from the summit of virtue to the depths of vice; or, when sunk so low, should by one effort recover his original state of elevation. But in this controversy presumptions must go for nothing. The positive evidences which were brought against the queen of Scots are so conclusive, that if they be genuine she must have been guilty; and if they be spurious there can be no doubt of her innocence. They consisted of a box with letters, contracts, and sonnets, said to be written by herself and sent to the earl of Bothwell. In addition to these, the supposed confessions of the criminals who had suffered for the king's murder were originally urged as proofs of her guilt: but those confessions are now admitted by all parties to be either wholly forged, or so grossly interpolated, that no stress whatever can be laid upon them; and during Mary's life it was affirmed by her friends, and not sufficiently contradicted by her enemies, that the persons who had accused Bothwell, and were doubtless his accomplices, instead of criminating the queen, had openly protested her innocence in their dying moments.

Stuart's History of Scotland.

This box then, with its contents, was the evidence upon which her accusers had the chief and indeed the only reliance; and it is upon this evidence, whatever it be, that the guilt or innocence of the Scottish princess must finally be determined. It is uniformly affirmed upon the part of the earl of Murray and his faction, that the casket with the letters and the sonnets had been left by Bothwell in the castle of Edinburgh; that this nobleman, before he fled from Scotland, sent a messenger to recover them; and that they were found in the possession of this person. The 20th day of June 1567 is fixed as the date of this remarkable discovery. The governor of the castle at that time was Sir James Balfour. George Dagleish, a servant of Bothwell's, is named as his messenger upon this errand. He was seized, it is said, by the domestics of the earl of Morton; and it was the earl of Morton himself who made the actual production of the casket and its contents.

This story is unsupported by vouchers, contains improbabilities, and cannot be reconciled with history and events. There remains not any authentic or un-suspicious evidence that the queen had dishonoured the bed of Lord Darnley; and there is the most satisfactory evidence\*, that though Bothwell was intrusted

\* Whitaker's Vindication.

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with the defence of the borders on account of his tried courage and loyalty, he was privately disliked by Mary for his uncommon zeal in the cause of Protestantism. At the very time when the queen is said to have had the most violent love for that nobleman, and with him to have been carrying on the most criminal intercourse against her husband, we know both from Randolph and from Knox, that Bothwell refused to gratify her by the smallest compliance with the ceremonies of her religion, though many of the other Protestant peers scrupled not to accompany her to the celebration of the mass. That the villain who could deliberately commit murder, should be so scrupulously conscientious with respect to modes of faith and worship, as to stand forward with a *peculiar* strain of bravery to oppose, in a favourite measure, the queen, who was *then* admitting him to her bed, and actually *forming plans* for raising him to her throne, is surely, to say the least of it, extremely improbable.

But let us suppose this non-compliance on the part of Bothwell to have been a measure concerted between the queen and him to conceal more effectually from the eyes of the public the criminal intercourse in which they were engaged; is it not very surprising, that of such politicians, the *one* should have *written* those letters, and the *other* have left them in the power of their *enemies*? The earl of Bothwell was exposed to more than suspicions of a concern in the murder of the king. These papers contained manifest proofs of his guilt. It evidently was not his interest to preserve them: or admitting, that till his marriage was solemnized with the queen he might look upon them as his best security for the realizing of his ambitious hopes; yet, after that event, when all his former friends had deserted him, he must have felt the strongest inducements to destroy such a criminal correspondence; and Mary must have been ardently animated with the same wish. The castle of Edinburgh, where the box is said to have been lodged, was at this time entirely at their command; and Sir James Balfour, their deputy, was the creature of Bothwell. If his enemies, who were now in arms against him, should possess themselves of this box and its contents, his destruction was inevitable. From his marriage till the 5th day of June, it was in his power to have destroyed the fatal papers; and if they had existed, it is not to be imagined that he would have neglected a step so expedient, not only for his own security and reputation, but also for those of the queen. During all this time, however, he made no effort to recover his box and letters: he had lodged them in the castle of Edinburgh; and there he chose to leave them in the custody of a man in whom he could not have one particle of assurance. This was excessively foolish; but his subsequent conduct was still more so. Upon the 6th day of June, it is evident that he had reason to suspect the fidelity of Sir James Balfour, since he avoided to take refuge in the castle of Edinburgh and fled to Dunbar. He returned, however, with an army in order to fight the rebels. The balance of empire might then seem to hang suspended between himself and his enemies: and in that state of things, a man of such commodious principles as Balfour appears to have been, might be inclined to do his old friend and patron a secret service, both to efface his former perfidy and



Mary and to create himself a new interest with him in case he should be victorious over the rebels. Yet in these critical moments Bothwell neglected to make any application to him for the casket and the letters! On the 15th of June, all his towering imaginations were at once dashed to the ground. He had come to Carberry hill, followed by an army and accompanied by a queen; but he fled from it attended only by a single servant, and was glad to shelter himself in the castle of Dunbar from the vengeance due to his crimes. Yet in this extremity of distress he is represented as trying a bold experiment, which he had not courage to try when he was fortified with the authority of his sovereign, and when he was facing the rebels in the field. In the very hour when almost every friend had deserted him, he expected a return of friendship from a man who had deserted him at first only because he *suspected him to be in danger*. At this period he sent his servant George Dalgleish to wait upon Balfour, the acting governor of the castle of Edinburgh, with a requisition for the box of letters, and to bring back the important charge, through ten thousand dangers, to Dunbar. Though this man was one of his agents in the murder of the king, and might therefore have been safely intrusted with any secret, he did not order him, as common sense requires he should have done, to destroy the letters as soon as he should get them into his possession. No! he sent him to fetch them from the castle, as if there was no danger in going thither, no doubt of receiving them there, and no difficulty in carrying them back. \* To a traveller in an easy chair, all roads are smooth, and all days are fine. Accordingly this same Dalgleish, though the well-known servant of Bothwell, makes good his entrance at the gates of the city, though these were guarded by 450 arquebusers all hostile to his master, finds his way to the castle, and delivers his message. But what is more astonishing than all, he actually receives the box of letters from Sir James Balfour. This indeed, says Mr Whitaker, "is o'er-doing Termagant; it out-herods Herod." Balfour was the ductile slave of selfishness. He had with infinite perfidiousness turned against his friend, his patron, and his queen, only because he saw them opposed by a party which he *thought* would prove too strong for them; but now when they were both plunged into the lowest state of distress, and branded with the appellation of regicides, his selfishness was suddenly changed into generosity, his meanness gave place to exalted sentiments, and, at the peril of his own life, he performed an heroic act of kindness! "In such circumstances (asks a contemporary writer), is it to be thought, either that the earl would send to the said Sir James, or that the said Sir James would send any thing to the earl? Is it likely? Is it credible?" No matter: Bothwell is made to send for his papers at a time when his difficulties and his despair render it *improbable* that he could *think* of them, and when it was absolutely *impossible* that he could *recover* them. His messenger accordingly is intercepted with the casket; and the adversaries of the queen, upon the 20th day of June, became possessed of vouchers with which they might operate her destruction. These inconsistencies are glaring, and of a force not easily to be controuled; and the story is open to other objec-

tions, which are, if possible, greater, and altogether in-  
furmoutable. Mary.

By comparing different proclamations of the rebels with the several despatches of Throgmorton, who was then Elizabeth's resident in Scotland, Mr Whitaker has made it appear in the highest degree probable, that Dalgleish was *not seized till* the 17th of July; that he was then, in consequence of an order issued by the court of session, apprehended, together with Powrie, another of Bothwell's servants, in that nobleman's lodgings in the palace of Holyroodhouse; and that therefore he could not be the bearer of the letters intercepted by the earl of Morton on the 20th of June. What adds greatly to this probability is the account which the rebels themselves give of his examination. A few days after he was taken, he was examined, say they, judicially, in a council where the earls of Morton and Athol are marked as present. It was natural upon this occasion to make inquiries about the casket and the papers. No questions, however, were put to him on that subject. He was not confronted with Sir James Balfour, from whom he had received the casket; nor with the domestics of the earl of Morton, by whom it was said that he had been apprehended. He was kept in prison many months after this examination; and during a period when the rebels were infinitely pressed to apologize for their violence against the queen, there were opportunities without number of bringing him to a confession. These opportunities, however, were avoided; and there exists not the slightest evidence that the casket and the papers had ever been in his possession. Is it then to be supposed, that if the casket and the papers had really been discovered with *him*, the establishment of a fact so important would have been neglected by the adversaries of the queen? No! they would have established it by the most complete evidence; which they were so far from attempting to do, that the earliest account which they give of their pretended seizure of the letters is dated *fifteen months* after the event itself, and nearly *nine months* after the death of Dalgleish. To have blazoned their discovery at the time they pretend it was made, might have been attended with very disagreeable consequences; for Dalgleish, who at his execution, asserted the innocence of the queen, and actually charged the earls of Murray and Morton as the contrivers of the murder, might have found proof that the casket could not possibly have been intercepted in his custody.

The 20th of June 1567 is fixed as the era of the discovery of the letters. If this discovery had been real, the triumph of the enemies of the queen would have been infinite. They would not have delayed one moment to proclaim their joy, and to reveal to her indignant subjects the fulness and the infamy of her guilt. They preserved, however, a long and a profound silence. It was not till the 4th of December 1567 that the papers received their first mark of notice or distinction; nor till the 16th of September 1568, that the earl of Morton was said to have intercepted them with Dalgleish. From the 20th day of June to the 4th day of December, many transactions and events of the highest importance had taken place; and the most powerful motives that have influence with men had called upon them to publish their discovery.



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covery. They yet made no production of the papers, and ventured not to appeal to them. In the proclamation which they issued for apprehending Bothwell, they inveigh against his guilt, and express an anxious desire to punish the regicides: yet though this deed was posterior to the 20th of June, there is no assertion in it to the dishonour of the queen; and it contains no mention of the box and the letters. An ambassador arrived in this interval from France, to inquire into the rebellion and the imprisonment of the queen; yet they apologized not for their conduct by communicating to him the contents of the casket. To Throgmorton, who had instructions to act with Mary as well as with her adversaries, they denied the liberty of waiting upon her at Lœchleven, where she was detained a close prisoner; and they were earnest to impress him with the idea that her love of Bothwell was incurable. He pressed them on the subject of their behaviour to her. At different times they attempted formally to vindicate themselves; and they were uniformly vehement on the topic of the love which she bore to that nobleman. Yet they obtained from producing the letters to him. "They even spoke of her to him with *respect and reverence*;" which surely they could not possibly have done had they been then in possession of the letters. They were solicitous to divide the faction of the nobles who adhered to the queen; and there could not have been a measure so effectual for this end as the production of the casket and its contents; yet they called no convention of her friends, to surprize and disunite them with this fatal discovery. They flattered the Protestant clergy, attended assemblies of the church, instilled into them a belief of the queen's being guilty of murder and adultery, and incited Mr Knox to "inveigh against her vehemently in his sermons, to persuade extremities towards her, and (as Throgmorton continues) to threaten the great plague of God against the whole country and nation if she should be spared from her *condign punishment*;" but they ventured not to excite the fury of these ghostly fathers by exhibiting to them the box and the letters. They compelled the queen to subscribe a resignation of her crown; and they had the strongest reason to be solicitous to justify this daring transaction. The box and the letters would have served as a complete vindication of them; yet they neglected to take any notice of these important vouchers; and were contented with resting on the wild and frivolous pretence that the queen, from sickness and fatigue, was disfigured with the care of her kingdom.

To the irrefragable proof of the forgery of the letters arising from their having been so long concealed, it has been replied, that the rebels could not produce them sooner with any regard to their own safety. "A considerable number of their fellow subjects, headed by some of the most powerful noblemen in the kingdom, was combined against them. This combination they could not hope to break or to vanquish without aid either from France or England. In the former kingdom, Mary's uncles, the duke of Guise and the cardinal of Lorraine, were at that period all-powerful, and the king himself was devotedly attached to her. The loading the queen, therefore, with the imputation of being accessory to the murder of her

husband, would be deemed such an inexpiable crime by the court of France, as must cut off every hope of countenance or aid from that quarter. From England, with which the principal confederates had been long and intimately connected, they had many reasons to expect more effectual support; but to their astonishment, Elizabeth condemned their proceedings with asperity. Her high notions of royal authority, and of the submission due by subjects, induced her on this occasion to exert herself in behalf of Mary, not only with sincerity but with zeal: she negotiated, she solicited, she threatened. From all these circumstances, the confederates had every reason to apprehend that Mary would soon obtain her liberty, and by some accommodation be restored to the whole, or at least to a considerable portion, of her authority as sovereign; and therefore they were afraid of the consequences of accusing her publicly of crimes so atrocious as adultery and murder."

This apology for the rebels consists of assertions for which there is no evidence, and of arguments which are wholly untenable. There is no evidence that Elizabeth exerted herself in behalf of Mary with sincerity and with zeal. If she had, she would have done more than threaten. An English army of 3000 men, aided by the Scottish combination which continued faithful to the queen, would have overturned the rebel government in the space of a month. It is inconceivable that the rebels were prevented by any apprehension of the queen's restoration from accusing her of the crimes of murder and adultery; for we learn from a despatch of Throgmorton's dated the 19th of July 1567, that "men of good regard did then boldly and overtly by their speech, utter great rigour and extremity against their sovereign; saying, it shall not be in the power of any *within* this realm, neither *without*, to keep her from condign punishment for her notorious crimes." From another despatch of the same ambassador's, dated five days after the former, we learn, that through him they *actually did* accuse her to Elizabeth of "incontinency, as well with the earl of Bothwell as with others, and likewise of the murder of her husband, of which, they said, they had as apparent proof against her as might be; as well by the testimony of *her own hand writing*, which they had recovered, as also by sufficient witnesses." This testimony, however, was not produced till more than four months afterwards; a certain proof, that though it was now in the hands of the manufacturers, it was not yet ready for inspection.

But let us take the facts of this ablest antagonist of Mary as he has stated them, and consider the argument which they are made to support. It is apparent, from the last quoted despatch of Throgmorton\*, that it could not be unknown, either to the court of France or the court of England, that the rebels were at all events determined to crown the prince, and either to put the queen to death or to keep her a close prisoner for life. These desperate enterprises, however, could not, it seems, be carried into effect without the countenance and aid of Elizabeth or Charles: but Elizabeth's notions of regal authority, and of the submission due by subjects, were high; and the French king was devotedly attached to the dethroned queen. If this was so, common sense lays, that the business of the confederates, since they expected aid from these

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\* Robert-  
son's *Differ-*  
*entiation*,  
3d edit.



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princes, was to charge Mary at once with the murder and adultery, and support the charge with the most convincing evidence which they had to produce. No! says this apologist of theirs, Charles IX. would have considered such conduct as a crime inexpiable, though he might *reasonably* be expected to give them his countenance in putting to death, or keeping in perpetual prison, for a comparatively venial offence, the queen to whom he was devotedly attached! This is strange reasoning; but it seems not to have occurred to the rebels themselves. The letters made their first appearance in a secret council assembled by the earl of Murray on the 4th of December 1567; and the reason there assigned by the confederates for their unwillingness to produce them was, "That luif they beare unto hir person, wha sometime was thaire soveraine, and for the reverrance of his majestie, whais moder she is, as alsua thay mony gude and excellent gifts and vertues quherewith God sometimes indowit hir." And they proceed to say, that they would not have produced them at all, "gif otherwise the sinceritie of their intentions and proceedings from the beginnunge myht be known to forrein nations and the inhabitants of this ile (of whome mony yet remains in suspence in judgement) satisfiet and resolvit of the richtnesness of their quarrel, and the securitie of them and their posteritie be ony other meane might be providit and established." So far were they from dreaming that the production of the letters would injure their cause in the court of France, that we see they frankly acknowledged that the sincerity and rectitude of their proceedings could not otherwise be manifested to foreign nations. In this instance they think and talk like reasonable men; but they do not long preserve the same consistency.

In this act of council the rebels discover the greatest anxiety for their pardon and security: And "the matter being largelie and with gude deliberacion ressonit at great length, and upon fundry daies; at last all the said lords, barrones, and others above exprimit, can find no other way or moeyngunge and reveling of the truth and *grunde of the hail matter fra the beginnunge*, plainlie and uprightlie, &c. Therefore the lords of secrete council, &c. desires it to be found and declarit be the estates and hail body of the parliament, that the cause and occasion of the tacking of the queen's person upon the 15th daie of Junii last by past, and holding and detaininge of the same within the hous and place of Lochlevin continewallie sensyne, presentlie, and in *all tymes comyng*; and generally all other things *inventit*, spokin, writtin, or donne be them, or onny of them, sen the tent daie of February last by past unto the daie and date *heirof*, towiching the said queen hir person: that caus, and all things depending theiron, or that onie wise maie apperteine theirt, &c. was in the said queen's awin default, in as far as be DIVERS HER PRIVIE LETTERS WRITTEN AND SUBSCRIVIT WITH HIR AWIN HAND, and sent by her to James Erll Bothwell, &c.—and be her ungodlie and dishonourable proceedinge in a privait marriage, soddanlie and unprovifitly, it is most certain, that she was previe, art and part, and of the actual devise and deid of the for-mencionit murther of the king, her lawchfull husband, our soveraigne lord's

father, committit be the said James Erll Bothwell, &c."

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Had the letters been really genuine, into the absurdity of this declaration no man of common sense could possibly have fallen. Truth is always consistent with itself: but in a series of forgeries contradictions are scarcely avoidable. The confederates rose in rebellion against the queen on the 10th of June; they faced her in rebellion at Carberry hill on the 15th; they sent her away into prison on the 16th: yet they afterwards justified *all* that they had done since the *tenth of February* by letters, which, they *said*, they had not till the *twentieth of June!* "This (says Mr Whitaker), if we consider it as folly, is one of the most striking and eminent acts of folly that the world has ever beheld. But it ought to be considered in a light much more dishonourable to the rebels; and as knavery, it is one of the rankest that has ever been attempted to be imposed upon the sons of men." On the 4th of December, it must be remembered that they had not fixed *any day* for the discovery of the letters. The story of the seizure of Dalgleish with the casket was not thought of till near a year afterwards; and when it was invented, they had certainly forgotten the date of their act of council. In that act, therefore, they were free to rove at large; but they roved very incautiously. By grounding upon the letters, proceedings prior to the 10th of June, they plainly declare the discovery of these fatal papers to have been *antecedent to the twentieth*. By grounding upon them their secret messages for sedition, their private conventions for rebellion, and "every thing inventit, spokin, written, or done, be them, or anny of them, respecting the queen, Bothwell, or Darnley, sen the *tent daie of February* last by past," they even intimate the discovery to have been previous to the murder of the king; and yet by their own accounts some of the letters were then *actually unwritten*. This is astonishing; and shows the extreme difficulty of carrying to any length a consistent series of falsehoods. Even Murray, Morton, and Lethington, could not do it. They knocked down one nine-pine in endeavouring to set up another; and they finally threw down all, by making them mutually and successively to strike one another.

We have not yet done with this act of council. It was with a view to the approaching convention of the estates that it had been formed and managed. It was a preparation for the parliament in which the conspirators had secured their fullest sway, and where they proposed to effectuate their pardon and security, and to establish the letters as decisive vouchers against the queen. Accordingly, upon the 15th day of December 1567, the three estates were assembled. The conspirators invited no candid or regular investigation. The friends of the nation and of the queen were overawed. Every thing proceeded in conformity to the act of council. The conspirators, by a parliamentary decree, received a full approbation of all the severities which they had exercised against the queen. A pardon by anticipation was even accorded to them for any future cruelty they might be induced to inflict upon her.—The letters were mentioned as the cause of this singular law; and this new appeal to them may be termed the second mark of their distinction. But, amidst the plenitude



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plenitude of their power, the conspirators called not the estates to a free and honest examination of them. This, indeed, had the letters been genuine, would have annihilated for ever all the consequence of the queen. Upon this measure, however, they ventured not. The letters were merely produced in parliament, and an act founded on them; but the queen was not brought from her confinement to defend herself, nor was any advocate permitted to speak for her. We learn from a paper of unquestionable authenticity\*, that "sindrie nobillmen that was her Grace's favouraris then present, buir with all (the rebel proceedings in this parliament), maist principellie for safety of hir Grace's lyfe, quhilk, or thair coming to parliament, was concludit and subscrivrit be ane greit part of hir takeris, to be taken frae hir in meist crewel manner, as is notourlie known." By the power of this magic, the friends of Mary were bound fast. They durst not venture to question publicly the authenticity of the letters, from their dread of exposing the queen to the dagger of the assassin. The parliament, therefore, sustained these forgeries as vouchers of her guilt, without scrutiny or debate of any kind. The conspirators, who were themselves the criminals, were her accusers and her judges, and passed a law exactly in the terms in which the act of secret council had before drawn it up.

\* See Whitaker's Vindication.

It was necessary to describe the letters both in the act of council and in the ordination of parliament; and these deeds having fortunately descended to posterity, it is apparent, from a comparison of them, that between the 4th and the 15th days of December, the letters must have undergone very essential alterations under the management of the conspirators. In the act of council the letters are described expressly as "written and *subscrivit* with the queen's awin hand;" but in the act of parliament they are said to be only "written *helilie* with hir awin hand," and there is no intimation that they were *subscribed* by her. Whence arises this difference? From a *blunder* in the clerk penning the act of council, says one: From a habit contracted by the same clerk, which made him *mechanically* add *subscribed* to *written*, says another: From the *carelessness* of the writer who transcribed the copy of the act of council which has descended to us, says a third. These subterfuges have been exposed in all their weakness by Messrs Tytler and Whitaker: but in this abstract it is sufficient to observe, that they are mere suppositions, supported by no evidence; and that the copy of the act of council which we have was given to the ministers of Elizabeth by the leaders of the faction, who were neither blundering clerks, nor under the habit of mechanically adding *subscribed* to *written*. Under one form, therefore, the letters were certainly exhibited before the council, and under another form they were produced in parliament; but had they been genuine, they would have appeared uniformly with the same face. The clerk of the council was Alexander Hay, a notary public accustomed to draw up writings and to attest them; and what puts his accuracy with respect to the letters beyond all possibility of doubt, his description of them is authenticated in the fullest manner by the signatures of Murray, Morton, and a long train of others who formed the secret council. The letters, therefore, were actually presented to the

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secret council with the customary appendage of subscription to them. But when these artificers of fraud came to reflect more closely on the approach of parliament, and to prepare their letters for the inspection of the friends of Mary, they began to shrink at the thoughts of what they had done. To substantiate the charge by letters under her own hand, they had naturally annexed her own subscription, a letter *unsubscribed* being a solecism in evidence. But most unfortunately for the cause of *complete* forgery, Mary was still in possession of her own *seal*, and he who fabricated the letters was not an engraver. For this reason, "the allegit writings in form of missive letters or epistles," says the bishop of Ross, in an address to Elizabeth, "are not *sellit* or *signetit*." They were neither attested by her subscription at the bottom, nor secured by her seal on the outside. In the secret council, where all were equally embarked in rebellion, these omissions were of no importance. But that letters containing intimations of adultery and of murder, should be sent by the queen to the earl of Bothwell, with her *subscription* to them, and yet without any guard of a *seal* upon them, so far exceeds all the bounds of credibility, that they could not expect it to gain the belief of parliament. They were struck with the absurdity of their plan, and dreaded a detection. They were under the necessity of altering it; but they could not supply the defect of the seal. They, therefore, wrote over the letters anew, and withheld the subscription.

These letters were now as complete as the conspirators wished them; yet in this state, while they were unsubscribed and unsealed, they wanted other formalities which are usual in despatches. They were without directions, and they had no dates. They must, therefore, have been sent by the queen to Bothwell as *open* and *loose papers*; yet they contained evidence against herself, and against him, of the most horrid wickedness; and Nicholas Hubert, the person who is said to have carried most of them, was of the lowest condition, and, as Dr Robertson characterizes him, "a foolish talkative fellow." He would, therefore, surely read those papers, which are polluted from end to end with open and uncovered adultery, and as surely report their contents to *others*. These are most incredible circumstances, on the supposition that the letters are authentic, unless the queen was, what none of her enemies ever represented her, an absolute idiot.

The letters in their composition bear no resemblance to the other writings of the queen. They have a vulgarity, an indelicacy, and a coarseness of expression and manner, that by no means apply to her. They breathe nothing of the passion of love besides the impulses of the sensual appetite; and they represent a queen, highly accomplished, in love with one of her subjects, as acting with all the sneaking humility of a cottager to a peer\*. A few instances will show this. "The devil *sinder* us," she is made to exclaim, "and God knit us togidder for ever for the maist faithful coupill that ever he unitit: *this is my feith; I will die in it.*" "I am," she says in another place, "varrey glad to write unto zow quhen the rest are sleipand; sen I cannot sleip as they do, and *as I wold desyre*, that is, *in your arms*, my dear lufe." "Seeing to obey zow, my dear lufe, I spare nouthor honor, conscience, *hasarde*,

\* See Whitaker's Vindication.



Mary. *hasarde, nor greaifels qualifumever; tak it, I pray zow, in gude part, as from the maift faithful luifer that ever ze had, or ever fall have.* "Se not hir (his wife,) quhais fenzeit teils furd not be fa mikle preift nor clemis as the trew and faithful trevellis quhilk I fuffine for to *merite her place.*" "God give zow, my onely lufe, the hap and prosperite quilk your *humble* and faithful lufe defyres unto zow, who *hopis to be schortly another thing to you* for the reward of my irkome trawvelles." "When I will put you out of dout, and cleir myfelfe, *refufe it not*, my dear lufe; and suffer me to mak zow some prufe be *my obedience*, my faithfulness, constancie, and *voluntary subjection*, quhilk I tak for the *plefanest gude* that I might reseif, *gif x<sup>e</sup> will except it.*" "Such (says Mr Whitaker) was the coarfe *kirle*, and the homely *necktie*, in which these wretched representers of Mary dressed themselves up, for the exhibition of a queen dignified, refined, and elegant;—a queen whom, according to their own account, "God had indowit with mony gude and excellent gifts and virtues!"

\* Stuart.

The evidence which points to the forgery of the letters is profuse and instructive. In its separate parts, it is powerful and satisfactory \*. When taken together, and in the union of its parts, it is invincible. But, amidst all its cogency and strength, there is a circumstance most peculiarly in its favour, and of which it required no aid or assistance. By this peculiarity, it is cascd completely in steel, and armed at every point. The letters have come down to us in the French, the Scottish, and the Latin languages. Now the conspirators affirmed, that they were written by the queen in the French language. But by a critical examination of them in these different languages, Mr Goodall demonstrated, that the pretended French originals are a translation from the Latin of Buchanan, which is itself a version from the Scotch. This is indeed acknowledged by Dr Robertson, the ablest and most persevering of all Mary's enemies, who pretends, that, so far as he knows, it never was denied. Determined, however, to support the authenticity of the letters at all events, the same elegant and ingenious writer supposes †, that the French originals are now lost, but that two or three sentences of each of those originals were retained, and prefixed to the Scottish translation; and that the French editor observing this, foolishly concluded, that the letters had been written partly in French and partly in Scottish. In support of this singular hypothesis, he proceeds to affirm, that "if we carefully consider those few French sentences of each letter which still remain, and apply to them that species of criticism by which Mr Goodall examined the whole, a clear proof will arise, that there was a French copy, not translated from the Latin, but which was itself the original from which both the Latin and Scottish have been translated." He accordingly applies this species of criticism, points out a few variations of meaning between what he calls the remaining sentences of the original French and the present Latin; and thinks, that in the former he has discovered a spirit of elegance which neither the Latin nor the Scottish have retained. His critical observations have been examined by Mr Whitaker; who makes it apparent as the noon-day sun, that the doctor has occasionally mistaken the sense of the Latin, the French,

† Dissertation.

and even the Scotch; and that he has forgotten to point out either the elegance or the spirit of any particular clauses in his pretended originals. The same masterly vindicator of Mary then turns his antagonist's artillery against himself; and demonstrates, that such variations as he has thought sufficient to prove the existence of a former French copy, are not confined to the first sentence of each of the three first letters, but are extended to other sentences, and diffused over all the letters. Hence he observes, that this mode of proving will demonstrate the *present* French, and *every* sentence in it, to be that very original, which it primarily pretended to be, which Mr Goodall has so powerfully proved it not to be, and which even the doctor himself dares not assert it is. Our limits will not admit of our transcribing the observations of these two illustrious critics; nor is it necessary that we should transcribe them. By acknowledging that "Buchanan made his translation, not from the French but from the Scottish copy (of which he justly observes, that, were it necessary, several critical proofs might be brought)," Dr Robertson, in effect, gives up his cause. Had there been any other French letters than the present †, what occasion had Buchanan for the Scotch, when he himself must have had possession of the originals? It is evident from Mr Anderson's account, that those letters were translated by Buchanan at London during the time of the conferences. He was one of the assistants appointed to the rebel commissioners, and intrusted with the whole conduct of the process against the queen. By him, with Lethington, Macgill, and Wood, the original letters were exhibited, and their contents explained to the English commissioners; and we know from the authentic history of those papers, that they were neither lost nor mislaid for many years afterwards. It cannot be pretended that Buchanan did not understand the French; for he past most of his life in that country, and taught a school there. He was, indeed, a daring zealot of rebellion; but, with all his audacity, he must have felt the task in which he was engaged a very ungracious one. When he sat down to defame, in the eyes of all Europe, a queen to whom he owed not only allegiance but also personal gratitude, it is not conceivable that he could have translated from a *Scotch translation*, had he known any thing of a *French original*; and if the rebel commissioners, who were said to produce them, knew nothing of such originals, certainly no body else ever did: if they existed not with Buchanan, they existed nowhere.

Dr Robertson, however, has another argument against Mr Goodall, which he thinks conclusive. Of the eight letters "the five remaining (he says) never appeared in Latin: nor is there any proof of their ever being translated into that language. Four of them, however, are published in French. This entirely overturns our author's hypothesis concerning the necessity of a translation into Latin."—An authentic fact will indeed overturn any hypothesis; but, most unluckily for this argument, the doctor advances the hypothesis, and the fact rests with Mr Goodall. It is indeed true that Buchanan published only the three first letters in Latin at the end of his Detection; but it does not therefore follow, that the other five were never translated into that language. Indeed Mr Whitaker has

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† Zytler's Inquiry.

made



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made it as apparent as any thing can be, that the whole eight were turned into Latin for the use of the French translator, who, by his own account, understood not the Scotch. He has made it in the highest degree probable, that this translator was one *Camuz*, a French refugee; and he has demonstrated, that the translation was made in London under the eye of Buchanan himself. We do not quote his arguments, because they consist of a great number of observations which cannot be abridged; and because the translator himself confesses every thing which is of importance to the cause maintained by Mr Goodall. "Au reste (he tells us) *epistras misas sur la fin, which were all but the eighth, "avaient été écrites par la Roynie, partie en François, partie en Escossois; et depuis traduites ENTIEREMENT en LATIN: mais n'ayant cognoissance de la langue Escossoise, j'ay mieux aimé exprimer TOUT ce, que j'ay trouve en LATIN, que, &c.*" This confession (says Mr Whitaker) takes a comprehensive sweep. It makes all the *seven* letters at least, and the *whole* of each, to have been translated into Latin, and from thence to have been rendered into French. It starts no piddling objections about sentences or half sentences, at the head or at the tail of any. It embraces all within its wide-spread arms. And it proves the fancied existence of a French copy at the time to be all a fairy vision; the creation of minds that have subjected their judgements to their imaginations; the invited dreams of self-delusion."

The letters, so weak on every side, and so incapable of sustaining any scrutiny, give the marks of suspicion and guilt in all the stages of their progress. Even with the parliamentary sanction afforded to them by the three estates, which the earl of Murray assembled upon the 15th day of December 1567, he felt the delicacy and the danger of employing them *openly* to the purposes for which they were invented. For while he was scheming with Elizabeth his accusation of the queen of Scots, he took the precaution to submit privately the letters to that princess by the agency of his secretary Mr Wood. The object of this secret transaction, which took place early in the month of June 1568, was most flagitious, and presses not only against the integrity of Murray, but also against that of the English queen. Before he would advance with his charge, he solicited from her an assurance that the judges to be appointed in the trial of Mary would hold the letters to be true and probative.

By the encouragement of Elizabeth, the earl of Murray was prevailed upon to prefer his accusation\*. He was soon to depart for England upon this business. A privy council was held by him at Edinburgh. He took up in it with formality the letters of the queen from the earl of Morton, and gave a receipt for them to that nobleman. That receipt is remarkable and interesting. It is dated upon the 16th of September 1568, and contains the first mention that appears in history of the discovery of the letters as in the actual possession of Dalgleish upon the 20th of June 1567. This, as we have already noticed, is a very suspicious circumstance; but it is not the only suspicious circumstance which is recorded in the receipt. In the act of secret council, and in the ordination of parliament, in December 1567, when the earl of Murray and his associates were infinite-

ly anxious to establish the criminality of the queen, the only vouchers of her guilt to which they appealed were the letters; and at that time, doubtless, they had prepared no other papers to which they could allude. But in Murray's receipt in September 1568 there is mention of other vouchers beside the letters. He acknowledges, that he also received from the earl of Morton contracts or obligations, and sonnets or love verses. These remarkable papers, though said to have been found upon the 20th of June 1567, appeared not till September 1568; and this difficulty is not to be solved by those who conceive them to be genuine. The general arguments which affect the authenticity of the letters apply to them in full force; only it must be observed, that as the original letters were undoubtedly in Scotch, the original sonnets were as certainly written in French. This has been completely proved by Dr Robertson, and is fully admitted by Mr Whitaker, who has made it in the highest degree probable that Lethington forged the letters and Buchanan the sonnets. Be this as it may, the sonnets have every external and internal evidence of forgery in common with the letters, and they have some marks of this kind peculiar to themselves. In particular, they make the love of Mary still more grovelling than the letters made it; and with a degree of meanness, of which the soul of Lethington was probably incapable, the author of the sonnets has made the queen consider it as "na lytill honor to be maistres of her subjects gudis!" In this the dignified princess is totally lost in "the maid Marien" of her pretended imitators; and Buchanan, who in his commerce with the sex was a mere sensualist, forgot on this occasion that he was personating a lady and a queen.

There is, however, in these sonnets, one passage of singular importance, which we must not pass wholly unnoticed. The queen is made to say,

*Pour luy aussi j'ay jetté mainte larme  
Premier qu'il fust de ce corps possesseur,  
Duquel alors il n'avoit pas le cœur.  
Puis me donna un autre dur alarme,  
Quand il versa de son sang mainte dragma.*

For him also I powrit out mony teiris,  
First quhen he made himself possessor of this body,  
Of the quhilk then he had not the heart.  
Efter he did give me an uther hard charge,  
Quhen he bled of his blude great quantitie, &c.

If these sonnets could be supposed to be genuine, this passage would overthrow at once all the letters and both the contracts which were produced; and would prove, with the force of demonstration, that the seizure of Mary by Bothwell was *not* with her own consent; that he actually committed a *rape* upon her; that she had for him *no love*: and that she married him merely as a *refuge to her injured honour*. The sonnets, however, are undoubtedly spurious; but, considered in this light, the verses before us prove with equal force the full conviction in the minds of the rebels of what in an unguarded moment they actually confessed to Throgmorton, and was manifest to all the world; viz. that "the queen their sovereign was *led captive*, and by FEAR, FORCE, and (as by many conjectures may be well suspected) others EXTRAORDINARY and

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Mary. more UNLAWFUL means COMPELLED to become bed-fellow to another wife's husband." They prove likewise, that after the rape, finding Mary highly indignant at the brutality done her, Bothwell actually stabbed himself; not, we may believe, with any intention to take away his own life, but merely that by shedding many a "drachm" of blood he might mollify the heart of the queen.

But we mean not to pursue the history of the sonnets any farther. Though they were undoubtedly invented in aid of the letters, to prove that fundamental principle of the conspirators,—that the love of Mary to Bothwell was inordinate; yet they are so incompatible with history, and with one another, that they demonstrate the spuriousness of themselves, and of the evidence which they were intended to corroborate. By thus endeavouring to give an air of nature and probability to their monstrous fictions, the rebels at once betrayed the fabrication of the whole. They have themselves supplied us with a long and particular journal, to show the true dates of facts; and by that journal have their letters and their sonnets been demonstrated to be spurious. "The makers of these papers (says Mr Whitaker) have broken through all the barrier of their own history. They have started aside from the orbit of their own chronology. They have taken a flight beyond the bounds of their own creation; and have there placed themselves conspicuous in the PARADISE OF FOOLS."

This mass of forgery was clandestinely shown to Elizabeth's commissioners during the conferences at York: (See SCOTLAND). It was shown again to the same commissioners and others during the conferences at Westminster. But neither Mary nor her commissioners could ever procure a sight of a single letter or a single sonnet. By the bishop of Ross and the lord Herries she repeatedly demanded to see the papers said to be written by her; but that request, in itself so reasonable, Elizabeth, with an audacity of injustice of which the history of mankind can hardly furnish a parallel, thought fit to refuse. Mary then instructed her commissioners to demand copies of the letters and sonnets; and offered even from these to demonstrate in the presence of the English queen and parliament, and the ambassadors of foreign princes, that the pretended originals were palpable forgeries. Even this demand was denied her; and there is undoubted evidence still existing, that neither she nor her commissioners had so much as a copy of these criminal papers till after those important conferences had for some time been at an end. This last demand perplexed Elizabeth; the conferences were suddenly broken up; Murray was dismissed with his box to Scotland; and the letters were seen no more!

But the letters, we are told, were at Westminster compared with letters of the queen's, and found to be in the same Roman hand. They were indeed compared with other writings; but with what writings? This question let Elizabeth's commissioners themselves answer. They collated them, they say, "with others her letters, which were showed yesternight, and avowed by THEM (the rebel commissioners) to be written by the said queen." This was such a collation as must have pronounced them to be idiots\*, if we had not known them to be otherwise; and such as must pronounce them to be knaves, as we know them to

\* Whitaker.

Mary. have been men of sense. Like persons totally incompetent to the management of business, but in truth acting ministerially in the work of profligacy, they compared the letters produced, NOT with letters furnished by Mary's commissioners, NOT with letters furnished even by indifferent persons, BUT with letters presented by the producers themselves.—"This (says Mr Whitaker) is such an instance of imposition upon Mary and the world, as can scarcely be paralleled in the annals of knavery. Many instances of imposition, indeed, occur in the wretched history of our race; but we can hardly find one, in which the imposition was so gross, so formal, so important, and so clear. It was very gross, because it has not a shred of artifice to cover its ugly nakedness. It was very formal, because it was done by men some of whom were of the first character in their country; and all were bound by honour, and tied down by oaths, to act uprightly in the business. It was very important, because no less than the reputation of a queen, and the continuance of an usurpation, depended upon it. And it is very clear, because we have the fact related to us by the commissioners themselves, recorded to their shame in their own journal, and transmitted by their own hands to posterity with everlasting infamy on their heads."

When Tytler's *Inquiry into the Evidence produced by the Earls of Murray and Morton against Mary Queen of Scots* was first published, it was reviewed in the Gentleman's Magazine by the late Dr Johnson. The review, which consists of a brief analysis of the work, with reflections interspersed on the force of the evidence, concludes thus:—"That the letters were forged is now made so probable, that perhaps they will never more be cited as testimonies." Subsequent experience has shown, that the great critic's knowledge of human nature had not deserted him when he guarded his prediction with the word *perhaps*. Few authors possess the magnanimity of Fenelon: and it is not to be expected that he who has once maintained the letters to be genuine, should by reasoning or criticism be compelled to relinquish them: but we are persuaded, that, after the present generation of writers shall be extinct, these letters and sonnets will never be cited as evidence, except of the profligacy of those by whom they were fabricated.

Such is a view (partial it may be deemed by some) of this remarkable controversy previous to the publication of Mr Laing's History of Scotland. But, in opposition to all these arguments against the genuineness and authenticity of the letters and sonnets attributed to Mary, this historian observes, that it is impossible to fix the supposed forgery on any one of the different persons to whom it has been ascribed, which, if true, renders it abundantly evident, that they must have been the genuine productions of the ill-fated Mary. According to Mr Laing, it was necessary for Mary to disavow the letters; and consequently her commissioners were instructed to affirm that they were forged, and that there were diverse of each sex in Scotland, particularly of those in company with her adversaries, who could counterfeit and write the queen's hand, as well as herself. This strange assertion, so apparently false, is repeated in Lesly's memorial to Elizabeth; but of those who could write and counterfeit the queen's hand, none were ever named, even in his defence of her honour; and the supposed forgery could



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be fixed on no particular person during Mary's life, which, it must be confessed, renders their forgery extremely suspicious. The writings suppressed in England were Lesly's and other anonymous vindications of Mary, in which there is no intimation whatever of Lethington's confession, *that he had frequently forged the queen's hand*. The letters are those in the Cecil collection, and the Cotton library, which are equally silent; and we must conclude, that the author, whether Cotton, James, or Camden, improving on Norfolk's apology, that Lethington *moved* him to consider the queen as not guilty, asserted gratuitously that Lethington acknowledged the whole forgery, as he had already done, that Buchanan frequently repented on his deathbed, of those calumnies which he reprinted in his history, at that time in the press. He who examines with care, Camden's mutilated account of the conferences in England, must be satisfied that the evidence of the Cecil and Cotton papers, which he confessedly examined, has been suppressed in his annals, in which Norfolk's letters from York are industriously concealed. Mr Laing is of opinion, that the sonnets ascribed to Mary, are as certainly the productions of her pen, and that the grossness of some of them can only be a prevailing argument for their forgery with those who are ignorant of the grossness of the age, or foolish enough to believe with Goodall, that Mary never once betrayed a single foible from the cradle to the grave.

As to the three contracts of marriage between the queen and Bothwell, reckoned forgeries by some authors, Mr Laing is also of opinion that they are the genuine productions of Mary, who was glad to get rid of a husband whose dissolute manners had rendered him odious in her eyes; and she expressed no genuine sorrow after his extraordinary and atrocious murder. He thinks that there is not to be found in any authentic history of those times, a single convincing argument of their being forgeries. In a word, after much ingenious criticism on the merits of the contracts, he concludes by saying, that the private, instead of being a copy or abstract from the public contract, is evidently the original from which the latter was formed; and it is observable that the two first contracts written by Mary, or under her inspection, are far superior in delicacy to the last: a circumstance in vain imputed to the art of the forgers, who, in fact, were more desirous to aggravate than to extenuate the grossness of her guilt (B).

She wrote, 1. Poems on various occasions, in the Latin, French, and Scotch languages. One of her poems is printed among those of A. Blackwood; another in Brantome's *Dames illustres*, written on the

death of her first husband Francis. 2. Consolation of her long imprisonment, and royal advice to her son. 3. A copy of verses, in French, sent with a diamond ring to Queen Elizabeth. There is a translation of these verses among the Latin poems of Sir Thomas Chaloner. 4. Genuine Letters of Mary Queen of Scots, to James earl of Bothwell; translated from the French, by E. Simmonds, 1726. There are, besides, many other of her epistles to Queen Elizabeth, Secretary Cecil, Mildmaye, &c. which are preserved in the Cottonian, Ashmolean, and other libraries.

MARY II. queen of England, eldest daughter of James II. by his first wife, was born at St James's in 1662. She was bred up a Protestant, and married to William Henry of Nassau, then prince of Orange, afterwards king of England, in the 16th year of her age. She staid in Holland with her husband till February 12. 1689, when she came over, and was solemnly proclaimed queen of England, &c. She was an equal sharer with her husband in all the rights belonging to the crown; but the administration and execution thereof were lodged solely in the king. She was a princess endowed with the highest perfections both of body and mind: she loved history, as being proper to give her useful instructions; and was also a good judge as well as a lover of poetry. She studied more than could be imagined, and would have read more than she did, if the frequent returns of ill humours in her eyes had not forced her to spare them. She gave her minutes of leisure to architecture and gardening; and since it employed many hands, she said, she hoped it would be forgiven her. She was the most gracious of sovereigns to her subjects, and the most obliging of wives to her husband, as well as the most excellent of mistresses to her servants: she ordered good books to be laid in the places of attendance, that persons might not be idle while they were in their turns of service. She was exceeding zealous for a reformation of manners; charitable in the highest degree, without the least ostentation. This excellent queen died on the 28th of December 1695, at Kensington, of the smallpox, in the 33d year of her age. In her the arts lost a protectress, the unfortunate a mother, and the world a pattern of every virtue. As to her person she was tall, of a majestic graceful mein, her countenance serene, her complexion ruddy, and her features beautiful.

*MARY Magdalen's Day*, a festival of the Romish church, observed on the 22d of July.

*MARY-GERANE'S-HOUSE*, a name given to Dunmorehead, in the parish of Dunqueen, county of Kerry, and province

Mary.

(B) This article stands in need of an apology; but whether for its length or its shortness, our readers may perhaps differ in opinion. If it be considered as a piece of common biography, and compared with the limits which we have prescribed to our other articles of the same kind, it has swelled to an extent beyond all proportion. But as a piece of common biography it ought not to be considered: it is intimately connected with the history of Scotland at a very interesting period; and it has been justly observed, by one of the ablest writers of the age, that "the fact under dispute in the life of Mary, is a fundamental and essential one; and that, according to the opinion which the historian adopts with regard to it, he must vary and dispose the whole of his subsequent narration." Viewed in this light, our abstract of the evidence which has been urged on both sides of this controversy will by many be deemed too short. To such as wish for complete satisfaction, we can only recommend the unbiassed study of the writings of Buchanan, Leslie bishop of Ross, Goodal, Robertson, Hume, Tyler, Sir David Dalrymple, Stuart, Whitaker, and Laing.



Marybo-  
rough  
||  
Maryland.

province of Munster, in Ireland. It is the most western point of all Europe, and called by the Irish *Ty Vorney Geerone*. It is a point as much celebrated by them as John-of-Groat's house by the Scots, which is the utmost extremity of North Britain.

MARYBOROUGH, a borough, market, and post town, and the assizes town to Queen's county, in the province of Leinster, in Ireland; so called in honour of Mary queen of England, who reduced this part of the country to shire-ground by act of parliament 6th and 7th Philip and Mary. It is governed by a burgomaster and bailiffs, and has a barrack for a troop of horse. It formerly returned two members to parliament. It is distant from Dublin 40 miles. N. Lat. 53. 0. W. Long.

7. 20.

MARYBURGH. See *FORT WILLIAM*.

MARYGOLD. See *CALTHA*, *BOTANY Index*.

Corn MARYGOLD. See *CHRYSANTHEMUM*, *BOTANY Index*.

French MARYGOLD. See *TAGETES*, *BOTANY Index*.

MARYLAND, one of the Thirteen United States of America. It received that name in honour of Henrietta Maria, the consort of King Charles I. who made a grant of this country, with very extraordinary powers, to Lord Baltimore. It lies between 38 and 40 degrees north latitude, and in longitude from 74 to 78 degrees west from London. It is bounded on the north by Pennsylvania; on the east by the Delaware state; on the south-east and south by the Atlantic ocean, and a line drawn from the ocean over the peninsula (dividing it from Accomack county in Virginia) to the mouth of Patomack river, thence up the Patomack to its first fountain, thence by a due north line till it intersects the southern boundary of Pennsylvania, in Lat. 39° 43' 18"; so that it has Virginia on the south, south-west, and west. It contains about 14,000 square miles, of which about one-sixth is water. It is divided into 18 counties, 10 of which are on the western and 8 on the eastern shore of Chesapeak bay, St Mary's, Somerset, Calvert, Montgomery, Washington, Queen Ann's, Caroline, Kent, Charles, Talbot, Dorchester, Baltimore, Ann Arundel, Worcester, Hartford, Cecil, Frederick, and Prince George's. Each of the counties sends four representatives to the house of delegates; besides which the city of Annapolis and town of Baltimore send each two, making in the whole 76 members. The climate is generally mild and agreeable, suited to agricultural productions and a great variety of fruit trees. In the interior hilly country the inhabitants are healthy: but in the flat country, in the neighbourhood of the marshes and stagnant waters, they are, as in the other southern states, subject to intermittents. Chesapeak bay divides this state into the eastern and western divisions. It affords several good fisheries; and, in a commercial view, is of immense advantage to the state. It receives a number of the largest rivers in the United States. From the eastern shore in Maryland, among other smaller ones, it receives Pokomoke, Choptank, Chester, and Elk rivers; from the north the rapid Susquehannah; and from the west Patapsco, Severn, Patuxent, and Patomack, half of which is in Maryland and half in Virginia. Except the Susquehannah and Patomack, these are small rivers. East of the blue ridge of mountains, which stretches across the western

part of this state, the land, like that in all the southern states, is generally level and free of stones. Wheat and tobacco are the staple commodities of Maryland. In the interior country, on the uplands, considerable quantities of hemp and flax are raised.

The number of inhabitants in this state, including the negroes, is 254,050; which is 18 for every square mile. The inhabitants, except in the populous towns, live on their plantations, often several miles distant from each other. To an inhabitant of the middle, and especially of the eastern states, which are thickly populated, they appear to live very retired and unsocial lives. The effects of this comparative solitude are visible in the countenances as well as in the manners and dress of the country people; there being among them very little of that cheerful sprightliness of look and action which is the invariable and genuine offspring of social intercourse; nor do they pay that attention to dress which is common, and which decency and propriety have rendered necessary, among people who are liable to receive company almost every day. As the negroes perform all the manual labour, their masters are left to saunter away life in sloth, and too often in ignorance. These observations, however, must in justice be limited to the people in the country, and to those particularly whose poverty or parsimony prevents their spending a part of their time in populous towns or otherwise mingling with the world.

The chief towns in this state are Annapolis and Baltimore.—*Annapolis*, the capital, and the wealthiest town of its size in America, is situated just at the mouth of Severn river, 30 miles south of Baltimore. The houses are generally large and elegant; and the stadthouse is the noblest building of the kind in America.—*Baltimore* has had the most rapid growth of any town on the continent, and is the fourth in size and the fifth in trade in the United States. It lies in Lat. 39. 21. on the north side of Patapsco river, around what is called the Basin. The situation of the town is low. The houses were numbered in 1787, and found to be 1955; about 1200 of which were in the town, and the rest at Fell's point. The number of stores was 152; and of churches 9, which belong to German Calvinists and Lutherans, Episcopalians, Presbyterians, Roman Catholics, Baptists, Methodists, Quakers, Nicolites, or New Quakers. The number of inhabitants is between 10,000 and 11,000. There are many very respectable families in Baltimore, who live genteelly, are hospitable to strangers, and maintain a friendly and improving intercourse with each other; but the bulk of the inhabitants, recently collected from almost all quarters of the world, bent on the pursuit of wealth, varying in their habits, their manners, and their religions, if they have any, are unsocial, unimproved, and inhospitable. The trade of Maryland is principally carried on from Baltimore, with the other states, with the West Indies, and with some parts of Europe. To these places they send annually about 30,000 hogheads of tobacco, besides large quantities of wheat, flour, pig iron, lumber, and corn,—beans, pork, and flax seed, in smaller quantities; and receive in return, clothing for themselves and negroes, and other dry goods, wines, spirits, sugars, and other West India commodities. The balance is generally in their favour.



Maryland.

The Roman Catholics, who were the first settlers in Maryland, are the most numerous religious sect. Besides these, there are Protestant Episcopalians, English, Scots, and Irish Presbyterians, German Calvinists, German Lutherans, Friends, Baptists, Methodists, and Nicolites, or New Quakers. The colleges in this state have all been founded since the year 1782, and are yet in their infancy. The names of the several seminaries are, Washington College at Chestertown, instituted in 1782; St John's College at Annapolis, founded in 1784; Cakesbury College at Abingdon, instituted by the Methodists in 1785; and a college founded by the Roman Catholics at Georgetown. There are a few other literary institutions, of inferior note, in different parts of the state, and provision is made for free schools in most of the counties: though some are entirely neglected, and very few carried on with any success; so that a great proportion of the lower class of people are ignorant, and there are not a few who cannot write their names. But the revolution, among other happy effects, has roused the spirit of education, which is fast spreading its salutary influences over this and the other southern states.

The legislature of this state is composed of two distinct branches, a senate and house of delegates; and styled *The General Assembly of Maryland*. The senate consists of 15 members, chosen every five years. Nine of these must be residents on the western shore and six on the eastern; they must be more than 25 years of age, must have resided in the state more than three years next preceding the election, and have real and personal property above the value of 1000l. The house of delegates is composed of four members for each county, chosen annually on the first Monday in October. The city of Annapolis and town of Baltimore send each two delegates. The qualifications of a delegate, are, full age, one year's residence in the county where he is chosen, and real or personal property above the value of 500l. The qualifications of a freeman are, full age, a freehold estate of 50 acres of land, and actual residence in the county where he offers to vote; property to the value of 30l. in any part of the state, and a year's residence in the county where he offers to vote.

On the second Monday of November annually a governor is appointed by the joint ballot of both houses. The governor cannot continue in office longer than three years successively, nor be elected until the expiration of four years after he has been out of office. The qualifications for the chief magistracy are 25 years of age, five years residence in the state next preceding the election, and real and personal estate above the value of 5000l.; 1000l. of which must be freehold estate. This constitution was established by a convention of delegates at Annapolis, August 14. 1776.

Maryland was granted, as has been already noticed, by King Charles I. to Cecilius Calvert, baron of Baltimore in Ireland, June 20. 1632. The government of the province was by charter vested in the proprietary; but it appears that he either never exercised these powers alone, or but for a short time. The honourable Leonard Calvert, Esq. Lord Baltimore's brother, was the first governor or lieutenant general. In 1638, a law was passed, constituting the first regular

house of assembly, which was to consist of such representatives, called *burgesses*, as should be elected pursuant to writs issued by the governor. These burgesses possessed all the powers of the persons electing them; but any other freemen, who did not assent to the election, might take their seats in person. Twelve burgesses or freemen, with the lieutenant general and secretary, constituted the assembly or legislature. This assembly sat at St Mary's, one of the southern counties, which was the first settled part of Maryland. In 1687, the government was taken out of the hands of Lord Baltimore by the grand convention of England. Mr Copley was appointed governor by commission from William and Mary in 1692, when the Protestant religion was established by law. In 1716, the government of this province was restored to the proprietaries, and continued in his hands till the late revolution; when, being an absentee, his property in the lands was confiscated, and the government assumed by the freemen of the province, who formed the constitution now existing. At the close of the war, Henry Harford, Esq. the natural son and heir of Lord Baltimore, petitioned the legislature of Maryland for his estate; but his petition was not granted. Mr Harford estimated his loss of quit-rents, valued at 20 years purchase, and including arrears, at 259,428l. 5s.—dollars at 7s. 6d. and the value of his maners and reserved lands at 327,441l. of the same money.

MARYPORT, a sea port town of Cumberland, situated at the mouth of the Elne. It has a good harbour; and has 70 or 80 sail of shipping from 30 to 250 tons burden, principally employed in the coal trade; some of them sail up the Baltic for timber, flax, iron, &c. They have a furnace for cast iron and a glass-house. A chapel was erected here in 1760.

MAS, LEWIS DU, natural son to Jean Louis de Montcalm Seigneur de Candiac, and a widow of rank of Rouergue, was born at Nismes in 1676. His first attention was bestowed on jurisprudence; but afterwards he was altogether occupied with mathematics, philosophy, and the study of the languages. Father Malebranche cultivated his acquaintance and esteemed his virtues. His first appearance was severe, his general temper tranquil; yet he had a lively and fertile imagination. His mind was active, full of resources, and methodical. We are indebted to his industry for the Typographical Bureau. This invention is the more ingenious, as it presents the tedious parts of education, namely, reading, writing, and the elements of languages, to the youthful mind as a delightful entertainment; and many people in France, both in the capital and in the provinces, have adopted it with success. After he had conceived the idea of this invention, he made the first trial of it on the young Candiac, who was remarkable for his understanding in his earliest years. Du Mas conducted his pupil to Paris and the principal cities in France, where he was universally admired. This prodigy was carried off in the year 1726 before he was seven years of age, and his loss had nearly deprived Du Mas of his reason. A dangerous illness was the consequence of his vexation; and he would have died of want, if a gentleman had not taken him from his garret and entertained him in his own house. Du Mas afterwards retired with Madame de Vaujour within two leagues of Paris, and died in

Maryport,  
Mas.



**Masafuero**, in the year 1774, against 68. He was a philosopher both in genius and character. His works are, 1. *L'Art de transférer toutes sortes de Musiques sans être obligé de connoître, ni le temps, ni le mode*, published at Paris in 4<sup>to</sup>. 1711. This work is extremely curious, but of no advantage to the study of music. 2. A volume in quarto, printed at Paris 1733, in four parts, entitled, *Bibliothèque des enfans*. In this treatise he has placed, in a clear point of view, the system and economy of his Typographical Bureau. This invention, like every thing new, was censured by some and admired by others. The author himself defended it with much success in the journals and in several occasional pamphlets. This collection, however, is become exceedingly scarce. The Typographical Bureau was brought to perfection by M. Reybert a citizen of Avignon, who enriched it with many articles containing useful and agreeable information in geography, history, fable, &c. &c. 3. *Memoires de l'Ecosse sous le regne de Marie Stuart*, by Crawford, and translated from the English. This translation was found in manuscript in the library of the marquis d'Aubais, with whom Du Mas had lived in the most intimate habits of friendship.

**Mas Planta**, a plant which upon the same root produces male flowers only. See *MASCULUS FLOS*, **BOTANY Index**.

**MASAFUERO**, an island of the South sea, lying in S. Lat. 33. 45. W. Long. 80. 46. It is very high and mountainous, and at a distance seems to consist of one hill or rock. It is of a triangular form, and seven or eight leagues in circumference. There is such plenty of fish, that a boat with a few hooks and lines may very soon catch as many as will serve 100 people. Here are coal-fish, cavilliers, cod, halibut, and cray-fish. Captain Carteret's crew caught a king-fisher that weighed 87 pounds, and was five feet and a half long. The sharks were here so ravenous, that, in taking soundings, one of them swallowed the lead, by which they hauled him above water; but he regained his liberty by disgorging his prey. Seals are so numerous here, that Captain Carteret says, if many thousands were killed in a night, they would not be missed next morning. These animals yield excellent train oil; and their hearts and plucks are very good food, having a taste something like those of a hog; their skins are covered with a very fine fur. There are many birds here, and some very large hawks. Of the pintado bird one ship caught 700 in one night. Commodore Byron landed here with difficulty in 1765, in order to take in wood and water, of both which he found plenty. He found also great numbers of goats, whose flesh tasted as well as venison in England.

**MASOTHÆI**, or **MESOTHÆI**, the name of a sect, or rather of two sects; for Eusebius, or rather Hegeippus whom he cites, makes mention of two different sects of Masbothæans. The first was one of the seven sects that rose out of Judaism, and proved very troublesome to the church; the other was one of the seven Jewish sects before the coming of Jesus Christ.

The word is derived from the Hebrew שָׁבַת, *shabat*, "to rest or repose," and signifies *idle easy indolent people*. Eusebius speaks of them as if they had been so called from one Masbothæus their chief: but it is much more

probable that their name is Hebrew, or at least Chal- Masculine  
daic, signifying the same thing with a Sabbatarian in ||  
our language; that is, one who makes profession of Masf.  
keeping Sabbath.

Valerius will not allow the two sects to be confounded together: the last being a sect of Jews before, or at least contemporary with Christ; and the former a sect of heretics descended from them. Rufinus distinguishes them in their names; the Jewish sect he calls Masbothæi; and the heretics Masbothæani. The Masbothæans were a branch of the Simonians.

**MASCULINE**, something belonging to the male, or the stronger of the two sexes. See **MALE**.

**MASCULINE**, is more ordinarily used in grammar to signify the first and worthiest of the genders of nouns. See **GENDER**.

The masculine gender is that which belongs to the male kind, or something analogous to it.

Most substances are ranged under the heads of masculine or feminine.—This, in some cases, is done with a show of reason; but in others is merely arbitrary, and for that reason is found to vary according to the languages and even according to the words introduced from one language into another.—Thus the names of trees are generally feminine in Latin and masculine in the French.

Farther, the genders of the same word are sometimes varied in the same language. Thus *abus*, according to Priscian, was anciently masculine, but is now become feminine. And *navire*, "a ship," in French, was anciently feminine, but is now masculine.

**MASCULINE Rhyme**, in the French poetry, is that made with a word which has a strong, open, and accented pronunciation; as all words have, excepting those which have an *e* feminine in their last syllable. For instance, *amour* and *jour*, *mort* and *fort*, are masculine rhymes; and *pere* and *mere*, *gloire* and *memoire*, are feminine. Hence also verses ending with a masculine rhyme, are called *masculine verses*, and those ending with a feminine rhyme, *feminine verses*. It is now a rule established among the French poets never to use the above two masculine or two feminine verses successively, except in the looser kind of poetry. Marot was the first who introduced this mixture of masculine and feminine verses, and Roaard was the first who practised it with success. The masculine verses should always have a syllable less than the feminine ones.

**MASCULINE Signs**. Astrologers divide the signs into masculine and feminine; by reason of their qualities, which are either active, and hot or cold, accounted masculine; or passive, dry and moist, which are feminine.—On this principle they call the Sun, Jupiter, Saturn, and Mars, *masculine*; and the Moon and Venus *feminine*. Mercury, they suppose, partakes of the two. Among the signs, Aries, Libra, Gemini, Leo, Sagittarius, Aquarius, are masculine: Cancer, Capricornus, Taurus, Virgo, Scorpio, and Pisces, are feminine.

**MASCULUS FLOS**. See **FLOS**, **BOTANY Index**.

**MASH**, a drink given to a horse, made of half a peck of ground malt put into a pail, into which as much scalding hot water is poured as will wet it very well: when that is done, stir it about, till, by tasting, you find it as sweet as honey; and when it has stood till it is lukewarm, it is to be given to the horse.

Liquor



Mask  
||  
Mafon.

liquor is only used after a purge, to make it work the better: or after hard labour, or instead of drink in the time of any great sickness.

MASK. See MASQUE.

MASINISSA, a king of a small part of Africa, who at first assisted the Carthaginians in their wars against Rome; but afterwards joined the Romans, and became the firmest ally they ever had. See NUMIDIA.

MASON, a person employed under the direction of an architect, in the raising of a stone building.

The chief business of a mason is to make the mortar; raise the walls from the foundation to the top, with the necessary retreats and perpendiculars, to form the vaults, and employ the stones as delivered to him. When the stones are large, the business of hewing or cutting them belongs to the stonecutters, though these are frequently confounded with masons: the ornaments of sculpture are performed by carvers in stones or sculptors. The tools or implements principally used by them are the square, level, plumb line, bevel, compass, hammer, chisel, mallet, saw, trowel, &c. See SQUARE, &c.

Besides the common instruments used in the hand, they have likewise machines for raising of great burdens, and the conducting of large stones; the principal of which are the lever, pulley, wheel, crane, &c. See LEVER, &c.

MASON, *William*, an English poet of distinction, born in 1725, was the son of a clergyman who held the living of Hull. He took his first degrees at St John's college, Cambridge in 1745, whence he removed to Pembroke college, of which he was admitted a fellow in 1747. He was M. A. in 1749, a minister in 1754. The earl of Holderness presented him to the valuable rectory of Aston in Yorkshire, and procured for him the office of chaplain to his majesty. His ode on the installation of the duke of Newcastle as chancellor of the university of Cambridge was the first specimen of his poetical talents, which gained him considerable reputation, although the subject was not popular. His monody to the memory of Pope, and Isis, an elegy, added to his fame, which was still farther increased by his dramatic poem of Elfrida in 1752, and *Caractacus* in 1759.

He did not succeed in writing tragedy as he did not compose for the modern stage, but wished to revive the manner of the ancients. He published a small collection of odes in 1756, intended as an imitation of his dear friend Gray. He gave the world some elegies in 1763, which in general are marked with the simplicity of language proper to this species of composition, breathing noble sentiments of freedom and of virtue. In point of morality he may justly be considered as the purest of poets, and one of the warmest friends of civil liberty by which the age he lived in was distinguished. The first book of his *English Garden* made its appearance in 1772, a didactic poem in blank verse, of which the fourth and last book was printed in the year 1781. Some good critics consider this poem as rather stiff, and the dry minuteness of the preceptive part, prevented it from bringing the author any great degree of popularity. In 1775 he published the poems of Mr Gray, to which he prefixed memoirs of his life and writings. His observations on the character and genius of his

friend did honour to his taste and feelings, and of consequence the volume was favourably received.

Masonry.

At the place of his residence he acted with the friends of reform, and the enemies of such measures as were deemed incompatible with the liberties of freemen. During the continuance of the American war, he addressed an ode to the naval officers of Great Britain, on the acquittal of Admiral Keppel in 1779, in which he decidedly execrated the war carrying on against the people of America. When Mr Pitt rose to power in 1782, Mason addressed an ode to him, which contained patriotic and manly sentiments, but his lyric imagery did it considerable injury. He published in 1783 a poetical translation of Fresnoy's Latin poem on the art of painting, which unites great elegance of language and versification with a correct representation of a difficult original.

Besides the living with which he was presented soon after taking orders, he obtained the preferments of precentor and canon residentiary of the cathedral of York. At that church he preached an occasional discourse in 1788 on the subject of the slave-trade, full of animated declamation against the inhumanity of the traffic. The centenary commemoration of the revolution in that year produced his secular ode, which breathed his usual spirit of freedom. An additional volume of his poems was given to the world in 1797, consisting of miscellaneous pieces, the revised productions of his youth, and the effusions of his old age. In his *Palinody to Liberty* we behold the change wrought in his political principles by the melancholy events of the French revolution.

Mr Mason died in April 1797, at the age of 72, the consequence of a mortification by a hurt in his leg. He had married an amiable lady, who died of a consumption in 1767, and was buried at Bristol cathedral, under a monument on which are inscribed some very tender and beautiful lines by her husband. The character of Mason in private life was exemplary for worth and active benevolence. A tablet has been placed to his memory in Poets Corner in Westminster abbey. Some satirical pieces of merit have been ascribed to him, but some are of opinion that the internal evidence is sufficient to decide against his title to them; yet it must be allowed that he could write with energy and simplicity, and the objects of satire in these pieces are such as it was extremely probable that he would fix upon.

MASONRY, in general, a branch of architecture, consisting in the art of hewing or squaring stones, and cutting them level or perpendicular, for the uses of building: but, in a more limited sense, masonry is the art of assembling and joining stones together with mortar.

Hence arise as many different kinds of masonry as there are different forms and manners for laying or joining stones. Vitruvius mentions several kinds of masonry used among the ancients; three of hewed stone, viz. that in form of a net, that in binding, and that called the *Greek masonry*; and three of unhewed stones, viz. that of an equal course, that of an unequal course, and that filled up in the middle; and the seventh was a composition of all the rest.

Net masonry, called by Vitruvius *reticulatum*, from its resemblance to the meshes of a net, consists of stones squared in their courses, and so disposed as that their joints



Masonry.

joints go obliquely ; and their diagonals are the one perpendicular and the other level. This is the most agreeable masonry to the eye, but it is very apt to crack.

Bound masonry, is that in which the stones were placed one over another, like tiles ; the joints of their beds being level, and the mounters perpendiculars, so that the joint that mounts and separates two stones always falls directly over the middle of the stone below. This is less beautiful than the net work ; but it is more solid and durable.

Greek masonry, according to Vitruvius, is that where after we have laid two stones, each of which makes a course, another is laid at the end, which makes two courses, and the same order is observed throughout the building ; this may be called *double binding*, in regard the binding is not only of stones of the same course with one another, but likewise of one course with another course.

Masonry by equal courses, called by the ancients *isodomum*, differs in nothing from the bound masonry, but only in this, that its stones are not hewn.

Masonry by unequal courses, called *pseudisodomum*, is also made of unhewn stones, and laid in bound work ; but then they are not of the same thickness, nor is there any equality observed excepting in the several courses, the courses themselves being unequal to each other.

Masonry filled up in the middle, is likewise made of unhewn stones, and by courses : but the stones are only set in order as to the courses.

Compound masonry is of Vitruvius's proposing, so called as being formed of all the rest. In this the courses are of hewn stone ; and the middle being left void, is filled up with mortar and pebbles thrown in together : after this the stones of one course are bound to those of another course with iron cramps fastened with melted lead.

All the kinds of masonry now in use may be reduced to these five, viz. bound masonry ; that of brick work, where the bodies and projectures of the stones enclose square spaces or pannels, &c. set with bricks ; that de molton, or small work, where the courses are equal, well squared, and their edges or beds rusticated ; that where the courses are unequal ; and that filled up in the middle with little stones and mortar.

*Free Masonry*, denotes the rules or system of mysteries and secrets peculiar to the society of free and accepted masons.

Cause of the separation of professions.

1. When men are in a state of barbarity, and are scattered over the surface of a country in small and independent tribes, their wants are as small in magnitude, as they are few in number. It is in the power, therefore, of every individual, to perform, for himself and his family, every work of labour which necessity or comfort requires ; and while, at one time, he equips himself for the chase or the combat, at another, he is rearing a habitation for his offspring, or hollowing his canoe to surmount the dangers of the sea. But as soon as these tribes associate together, for the purposes of mutual protection and comfort, civilization advances apace ; and, in the same proportion, the wants and desires of the community increase. In order to gratify these, the ingenuity of individuals is called forth ; and those, who, from inability or indolence, cannot satisfy

their own wants, will immediately resort to the superior skill of their neighbours. Those members of the community, who can execute their work with the greatest elegance and celerity, will be most frequently employed ; and, from this circumstance, combined with the principle of emulation, and other causes, that distinction of professions will arise, which is found only among nations considerably advanced in civilization and refinement.

Masonry.

2. One of the first objects of man, in a rude state, is to screen himself and his family from the heat of the tropic sun, from the inclemency of the polar regions, from the sudden changes of more temperate climates. If he has arrived at such a degree of improvement, to live under the dominion of a superior, and under the influence of religious belief, the palace of his king, and the temple of his gods, will be reared in the most magnificent stile which his skill can devise and his industry accomplish, and decked with those false ornaments which naturally catch the eye of unpolished men. From that principle which impels the lower orders to imitate the magnificence and splendour of their superiors, a foundation will be laid for improvement in the art of building ; and it is extremely probable, from the circumstances which have been mentioned, as well as from others which the slightest reflection will suggest, that architecture will be the first profession to which men will exclusively devote their attention, and for which they will be trained by an established course of preparatory education.

3. Nor is it from this ground only, that masonry derives its superiority as a separate profession. While many other arts administer to our luxury and pride, and gratify only those temporary wants and unnatural desires which refinement has rendered necessary, the art of building can lay claim to a higher object. The undertakings of the architect, not only furnish us with elegant and comfortable accommodation from the inclemency of the seasons, from the rapacity of wild beasts, and the still more dangerous rapacity of man ; they contribute also to the ornament and glory of nations, and it is to them that we are indebted for those fortresses of strength which defend us from the inroads of surrounding enemies. Nor can the works of the architect be ranked among those objects which furnish amusement and accommodation for a few years, or at most during the short term of human life ; they descend unimpaired from generation to generation ; they acquire additional grandeur and value from an increase of age ; and are the only specimens of human labour which, in some measure, survive the revolutions of kingdoms, and the waste of time. The splendid remains of Egyptian, Grecian, and Roman architecture, which, in every age, have attracted the attention of the learned, and excited the astonishment of the vulgar, are standing monuments of the ingenuity and power of man ; and, in ages yet to come, they will reflect a dignity on the art of building, to which no other profession can arrogate the slightest claim.

4. But there is still another consideration, which entitles architecture to a decided pre-eminence among the other arts. It is itself the parent of many separate professions ; and requires a combination of talents, and an extent of knowledge, for which other professions have not the smallest occasion. An acquaintance with the sciences

Other Causes of the pre-eminence of architecture.



Masonry.

sciences of geometry and mechanical philosophy, with the arts of sculpture and design, and other abstruse and elegant branches of knowledge, are indispensable requisites in the education of a good architect; and raise his art to a vast height above those professions, which practise alone can render familiar, and which consist in the mere exertion of muscular force. It appears, then, from these considerations, that there is some foundation, in the very nature of architecture, for those extraordinary privileges to which masons have always laid claim, and which they have almost always possessed—privileges, which no other artists could have confidence to ask, or liberty to enjoy; and there appears to be some foundation for that ancient and respectable order of free masons, whose history we are now to investigate.

5. But, that we may be enabled to discover free masonry under those various forms, which it has assumed in different countries, and at different times, before it received the name which it now bears, it will be necessary to give a short description of the nature of this institution, without developing those mysteries, or revealing those ceremonial observances which are known only to the brethren of the order.

Description of the institution of free masonry.

6. Free masonry is an ancient and respectable institution, embracing individuals of every nation, of every religion, and of every condition in life. In order to confirm this institution, and attain the ends for which it was originally formed, every candidate, comes under a solemn engagement never to divulge the mysteries of the order, nor communicate to the uninitiated the secrets with which he may be entrusted, and the proceedings and plans in which the fraternity may be engaged. After the candidate has undergone the necessary ceremonies, and received the usual instructions, appropriate words and significant signs are imparted to him, that he may be enabled to distinguish his brethren of the order from the uninitiated vulgar, and convince others that he is entitled to the privileges of a brother, should he be visited by distress or want, in a distant land. If the newly admitted member be found qualified for a higher degree, he is promoted, after due intervals of probation, till he has received that masonic knowledge, which enables him to hold the highest offices of trust to which the fraternity can raise its members. At regular and appointed seasons, convivial meetings of the fraternity are held in lodges constructed for this purpose: temperance, harmony, and joy, characterise these mixed assemblies. All distinctions of rank seem to be laid aside, all differences in religious and political sentiments are forgotten: and those petty quarrels which disturb the quiet of private life, cease to agitate the mind. Every one strives to give

happinefs to his brother; and men seem to recollect, for once, that they are sprung from the same origin, that they are possessed of the same nature, and are destined for the same end.

7. Such are the prominent features of an institution, which has of late produced so great division in the sentiments of the learned, respecting its origin and tendency. While a certain class of men (A), a little over-anxious for the dignity of their order, have represented it as coeval with the world; others, influenced by an opposite motive, have maintained it to be the invention of English Jesuits, to promote the views of that intriguing and dangerous association (B). Some philosophers, among whom we may reckon the celebrated Chevalier Ramsay, have laboured to prove, that free masonry arose during the crusades; that it was a secondary order of chivalry; that its forms originated from that warlike institution, and were adapted to the peaceful habits of scientific men (C). Mr. Clinch (D) has attempted, with considerable ingenuity and learning, to deduce its origin from the institution of Pythagoras. M. Baruel (E) supposes it to be a continuation of the society of knights templars; while others, with a degree of audacity and malice rarely to be found in the character of ingenious men, have imputed the origin of free masonry to secret associations, averse to the interests of true government, and pursuing the villanous and chimerical project of levelling the distinctions of society, and freeing the human mind from the sacred obligations of religion and morality.

8. Without adopting any of these untenable opinions, or attempting to discover the precise period when free masonry arose, it may be sufficient to establish its claim to an early origin, and to show that it has existed in different ages of the world under different forms and appellations (F). In the execution of this task, the candid enquirer will be satisfied with strong and numerous resemblances, as the nature of the subject excludes the possibility of rigid demonstration. Every human institution is subject to great and numerous variations; the different aspects under which they appear, and the principles by which they are regulated, depend upon the progress of civilization, upon the nature of the government by which they are protected, and on the peculiar opinions and habits of their members. If, therefore, in comparing free masonry with other ancient associations, we should find it coincide with them in every circumstance, there would be strong reasons for suspecting, that the imagination of the writer had counterfeited resemblances when destitute of authentic information; or that the order had adopted the rites and ceremonies of antiquity, to cloak the recency of their origin,

(A) Anderson's History and Constitutions of Free Masonry, p. 1. Preston's Illustrations of Masonry, p. 6. 6th edition.

(B) Manuscript of Bode of Germany, in the possession of M. Mounier.

(C) Leyden's Preliminary Dissertation to the Complaynt of Scotland, p. 67, 71.

(D) Anthologia Hibernica, for January, March, April, and June 1794.

(E) Memoirs of Jacobinism, vol. ii. p. 377, 378, &c.

(F) M. Mounier observes, that if the order of free masons existed among the ancients, it would have been mentioned by cotemporary authors. This argument, however, for the recency of their origin, is far from being conclusive. For though it is allowed by all, that free masonry has existed in this country for at least 300 years, yet the association is never *once* mentioned in any of the histories of England.



**Masonry.** origin, to command the veneration and excite the notice of the public. Against free masonry, however, this charge cannot be preferred: we shall have occasion to consider it when connected with the idolatry of the heathens, when devoted to the church of Rome, and when flourishing under the milder influence of the reformed religion.

**Reasons why the knowledge of architecture would be confined to a few.**

9. As men, in the early ages of society, were destitute of those methods of diffusing knowledge which we now enjoy, and even of those which were used in Greece and Rome, when the art of printing was unknown; the few discoveries in art and science which were then made, must have been confined to a small number of individuals. In these ages, the pursuit of science must have been a secondary consideration, and those who did venture to explore the untrodden regions of knowledge, would overlook those unsubstantial speculations, which merely gratify the curiosity of philosophers; and would fix their attention on those only which terminate in public utility, and administer to the necessities of life. As architecture could only be preceded by agriculture, it must have been in this science that the first efforts of human skill were tried; and in which man must have first experienced success in extending his dominion over the works of nature. The first architects, therefore, would be philosophers. They alone required the assistance of art; and they alone would endeavour to obtain it. The information which was acquired individually, would be imparted to others of the same profession; and an association would be formed for the mutual communication of knowledge, and the mutual improvement of its members. In order to preserve among themselves that information which they alone collected; in order to excite amongst others a higher degree of respect for their profession, and prevent the intrusion of those who were ignorant of architecture, and, consequently, could not promote the object of the institution, appropriate words and signs would be communicated to its members; and significant ceremonies would be performed at their initiation, that their engagement to secrecy might be impressed upon their minds, and greater regard excited for the information they were to receive. Nor is this mere speculation; there exist at this day, in the deserts of Egypt, such monuments of architecture, as must have been reared in those early ages which precede the records of authentic history; and the erection of these stupendous fabrics, must have required an acquaintance with the mechanical arts, which is not in the possession of modern architects. It is an undoubted fact, also, that there existed, in these days, a particular association of men, to whom scientific knowledge was confined, and who resembled the society of free masons in every thing but the name.

**Causes of the union of religious rites with the mysteries of free masonry.**

10. In Egypt, and those countries of Asia which lie contiguous to that favoured kingdom, the arts and sciences were cultivated with success, while other nations were involved in ignorance: it is here, therefore, that free masonry would flourish, and here only can we

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discover marks of its existence in the remotest ages. It is extremely probable, that the first and the only object of the society of masons, was the mutual communication of knowledge connected with their profession; and that those only would gain admittance into their order, whose labours were subsidiary to those of the architect. But when the ambition or vanity of the Egyptian priests prompted them to erect huge and expensive fabrics, for celebrating the worship of their gods, or perpetuating the memory of their kings, they would naturally desire to participate in that scientific knowledge, which was possessed by the architects they employed; and as the sacerdotal order seldom fail, among a superstitious people, to gain the objects of their ambition, they would, in this case, succeed in their attempts, and be initiated into the mysteries, as well as instructed in the science of free masons. These remarks will not only assist us in discovering the source from which the Egyptian priests derived that knowledge for which they have been so highly celebrated; they will aid us also in accounting for those changes which were superinduced on the forms of free masonry, and for the admission of men into the order, whose professions had no connection with the royal art.

11. When the Egyptian priests had, in this manner, procured admission into the society of free masons, they connected the mythology of their country, and their metaphysical speculations, concerning the nature of God and the condition of man, with an association formed for the exclusive purpose of scientific improvement, and produced that combination of science and theology which, in after ages, formed such a conspicuous part of the principles of free masonry.

12. The knowledge of the Egyptians was carefully concealed from the vulgar; and when the priests did condescend to communicate it to the learned men of other nations, it was conferred in symbols and hieroglyphics, accompanied with particular rites and ceremonies, marking the value of the gift they bestowed. What those ceremonies were, which were performed at initiation into the Egyptian mysteries, we are unable, at this distance of time, to determine. But as the Eleusinian and other mysteries had their origin in Egypt, we may be able, perhaps, to discover the qualities of the fountain, by examining the nature of the stream.

13. The immense population of Egypt, conjoined with other causes, occasioned frequent emigrations from that enlightened country. In this manner it became the centre of civilization, and introduced into the most distant and savage climes the sublime mysteries of its religion, and those inventions and discoveries which originated in the ingenuity of its inhabitants. The first colony of the Egyptians that arrived in Greece, was conducted by Inachus, about 1970 years before the Christian era; and about three centuries afterwards, he was followed by Cecrops, Cadmus, and Danaus (G). The savage inhabitants of Greece beheld with astonishment the magical tricks of the Egyptians; and regarded as gods those skilful adventurers, who communicated

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The science and mysteries of the Egyptians carried into Greece.

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(G) Voyage du Jeune Anacharsis en Grece, 4to. tom. i. p. 2. Cecrops arrived in Attica in 1657 B. C. Cadmus came from Phenicia to Bœotia in 1593 B. C. and Danaus to Argolis in 1586 B. C.



**Masonry.** to them the arts and sciences of their native land (H). In this manner were sown those seeds of improvement, which, in future ages, exalted Greece to such pre-eminence among the nations.

**Institution of the Eleusinian mysteries.** 14. After the Egyptian colonies had obtained a secure settlement in their new territories, and were freed from those uneasy apprehensions which generally trouble the invaders of a foreign land; they instituted, after the manner of their ancestors, particular festivals or mysteries, in honour of those who had benefited their country by arts or by arms. In the reign of Erichonius, (A. C. 1500), the mysteries of the Egyptian Isis were established at Eleusis under the name of the Eleusinia. They were instituted in honour of Ceres, who having come to Greece in quest of her daughter Proserpine, resided with Triptolemus at Eleusis, and instructed him in the knowledge of agriculture, and in the still more important knowledge of a future state (I).

**Institution of the Panathenea and Dionysian mysteries.** 15. About the same time, the Panathenea were instituted in honour of Minerva, and the Dionysian mysteries in honour of Bacchus, who invented theatres (K), and instructed the Greeks in many useful arts, but particularly in the culture of the vine (L). That the Eleusinian and Dionysian mysteries were intimately connected with the progress of the arts and sciences, is manifest from the very end for which they were formed; and that they were modelled upon the mysteries of Isis and Osiris, celebrated in Egypt, is probable from the similarity of their origin, as well as from the consent of ancient authors (M). If there be any plausibility in our former reasoning concerning the origin of knowledge in Egypt, it will follow, that the Dionysia and the mysteries of Eleusis, were, like the societies of free masons, formed for scientific improvement, though tinged with the doctrines of the Egyptian mythology.

**Similarity between the Eleusinian mysteries and free masonry.** 16. But it is not from conjecture only that this conclusion may be drawn. The striking similarity among the external forms of these secret associations, and the still more striking similarity of the objects they had in view, are strong proofs, that they were only different streams issuing from a common fountain. Those who were initiated into the Eleusinian mysteries, were bound

by the most awful engagements, to conceal the instructions they received, and the ceremonies that were performed (N). None were admitted as candidates, till they arrived at a certain age; and particular persons were appointed, to examine and prepare them for the rites of initiation (O). Those, whose conduct was found irregular, or who had been guilty of atrocious crimes, were rejected as unworthy of initiation; while the successful candidates were instructed, by significant symbols, in the principles of religion (P), were exhorted to quell every turbulent appetite and passion (Q), and to merit, by the improvement of their minds, and the purity of their hearts, those ineffable benefits which they were still to receive (R). Significant words were communicated to the members: grand officers presided over their assemblies (S): Their emblems were exactly similar to those of free masonry (T); and the candidate advanced from one degree to another, till he received all the lessons of wisdom and of virtue which the priests could impart (U). But besides these circumstances of resemblance, there are two facts, transmitted to us by ancient authors, which have an astonishing similarity to the ceremonies of the third degree of free masonry. So striking is the resemblance, that every brother of the order who is acquainted with them, cannot question, for a moment, the opinion which we have been attempting to support (X).

17. Having thus mentioned some features of resemblance between the mysteries of Eleusis, and those of free masonry; let us now attend to the sentiments of contemporaries, respecting these secret associations; and we will find, that they have been treated with the same liberality and insolence. That some men, who, from self-sufficiency, or unsocial dispositions, have refused to be admitted into these orders, should detract from the character of an association, which pretends to enlighten the learned, and expand the affections of narrow and contracted minds, is by no means a matter of surprise; and it is equally consistent with human nature, that those, whose irregular conduct had excluded them from initiation, should calumniate an order, whose blessings they were not allowed to participate, and whose honours they

(H) Herodot. lib. i. cap. 58.

(K) Polydor Virg. de Rerum Invent. lib. iii. cap. 153.

(L) Robertson's Greece, p. 59. Bacchus or Dionysius came into Greece during the reign of Amphyctyon, who flourished about 1497 B. C.

(M) En adsum natura parens tuis Luci admota precibus summa numinum,—cujus numen unicum, multiformi specie, ritu vario, totus veneratur orbis. Me primogenii Phryges Pessinunticam nominant deum matrem; hinc Autochthonas Attici Cecropiam Minervam (alluding to the Panathenea); Illinc Cretes Dictynnam Dianam, &c. Eleusini vetustam Deam Cererem; priscaque doctrina pollentes Egyptii, ceremoniis me prorsus propriis percolentes, appellat vero nomine reginam Isidem. L. Apuleii Metamorph. lib. xi.

(N) Andoc. de Myst. p. 7. Meursius in Eleus. Myst. cap. 20. This latter author has collected all the passages in ancient writers, about the Eleusinian mysteries.

(O) Hesychius in Ἰδῆων.

(P) Clemens. Alexand. Strom. lib. i. p. 325. lib. vii. p. 845.

(Q) Porphyry. ap. Stob. Eclog. Phys. p. 142.

(R) Arrian in Epictet. lib. iii. cap. 21. p. 440.

(S) Robertson's Greece, p. 127.

(T) Euseb. Prepar. Evangel. lib. iii. cap. 12. p. 117.

(U) Petav. ad Themist. p. 414. Anacharsis. tom. iii. p. 582.

(X) The brethren of the order may consult, for this purpose, the article ELEUSINIA, and Robertson's history of Ancient Greece, p. 127.

(I) Isocrates Paneg. tom. i. p. 132.



Masonry. they were prohibited to share. Men of this description represented the celebration of the Eleusinian mysteries, as scenes of riot and debauchery; and reproached the members of the association, that they were not more virtuous and more holy than themselves (Y). But it is the opinion of contemporary writers, that these rumours were completely unfounded, and arose from the silence of the initiated, and the ignorance of the vulgar. They even maintain, that the mysteries of Eleusis produced sanctity of manners, attention to the social duties, and a desire to be as distinguished by virtue, as by silence. See ELEUSINIA. The illustrious Socrates could never be prevailed upon to partake of these mysteries (Z); and Diogenes, upon receiving a similar solicitation, replied, "That Patæcion, a notorious robber, obtained initiation; and that Epaminondas and Agesilaus never desired it (A)." But did not these men know, that in all human societies, the virtuous and the noble must sometimes associate with the worthless and the mean? Did they not know that there often kneel in the same temple, the righteous and the profane; and that the saint and the sinner frequently officiate at the same altar? Thus did the philosophers of antiquity calumniate and despise the mysteries of Eleusis; and, in the same manner, have some philosophers of our own day, defamed the character, and questioned the motives of free masons.

Objection answered. 18. This similarity of treatment, which the mysteries of Ceres and free masonry have received, is no small proof of the similarity of their origin, and their object. To this conclusion, however, it may be objected, that though the points of resemblance between these secret societies are numerous, yet there were circumstances in the celebration of the Eleusinian mysteries, which have no counterpart in the ceremonies of free masonry. The sacrifices, purifications, hymns, and dances, which were necessary in the festival of Ceres, have, indeed, no place in the society of free masons. But these points of dissimilarity, instead of weakening, rather strengthen our opinion. It cannot be expected, that in the reign of Polytheism, just sentiments of the deity should be entertained; and much less, that the adherents of Christianity should bend their knees to the gods of the heathens. The ancients worshipped those beings, who conferred on them the most signal benefits, with sacri-

fices, purifications, and other tokens of their humility and gratitude. But when revelation had disclosed to man more amiable sentiments concerning the Divine Being, the society of free masons banished from their mysteries those useless rites, with which the ancient brethren of the order attempted to appease and requite their deities; and modelled their ceremonies upon this foundation, that there is but one God, who must be worshipped in spirit and in truth.

19. The mysteries of Ceres were not confined to the city of Eleusis; they were introduced into Athens about 1356 B. C. (B); and, with a few slight variations, were observed in Phrygia, Cyprus, Crete, and Sicily (C). They had reached even to the capital of France (D); and it is highly probable that, in a short time after, they were introduced into Britain, and other northern kingdoms (E). In the reign of the emperor Adrian (F), they were carried into Rome, and were celebrated, in that metropolis, with the same rites and ceremonies which were performed in the humble village of Eleusis. They had contracted impurities, however, from the length of their duration, and the corruption of their abettors; and though the forms of initiation were still symbolical of the original and noble objects of the institution; yet the licentious Romans mistook the shadow for the substance; and, while they underwent the rites of the Eleusinian mysteries, they were strangers to the object for which they were framed.

20. About the beginning of the fifth century, Theodosius the Great prohibited, and almost totally extinguished the Pagan theology in the Roman empire (G); and the mysteries of Eleusis suffered in the general devastation (H). It is probable, however, that these mysteries were secretly celebrated, in spite of the severe edicts of Theodosius; and that they were partly continued during the dark ages, though stripped of their original purity and splendour. We are certain, at least, that many rites of the Pagan religion were performed, under the dissembled name of convivial meetings, long after the publication of the emperor's edicts (I); and Pfellus (K), informs us, that the mysteries of Ceres subsisted in Athens till the eighth century of the Christian era, and were never totally suppressed.

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21. Having

(Y) Robertson's Greece, p. 127. Porphyr. de Abſtinentia, lib. iv. p. 353. Julian orat. v. p. 173.

(Z) Lucian in Demonact. tom. ii. p. 380.

(A) Plut. de aud. Poet. tom. ii. p. 21. Diog. Laert. lib. vi. § 39.

(B) Playfair's Chronology.

(C) Lucii Apuleii Metamorph. lib. xi. p. 197, 198.

(D) Praise of Paris, or a sketch of the French capital, 1803, by S. West, F. R. S. F. A. S. This author observes, in the preface to his work, that Paris is derived from *Par Isis*, because it was built beside a temple, dedicated to that goddess; that this temple was demolished at the establishment of Christianity, and that there remains, to this day, in the Petits Augustins, a statue of Isis nursing Orus.

(E) Omitto Eleusinam sanctam illam et augustam, *ubi initiantur gentes orarum ultima*. Cic. de Nat. Deorum, lib. i. sub fine.

(F) A. D. 117. Encyclop. Brit. vol. vi. p. 555. Potter's Antiq. vol. i. p. 389.

(G) Gibbon's History of the Decline and Fall of the Roman Empire, 8vo. vol. v. p. 120.

(H) Zozim. Hist. lib. iv.

(I) Gibbon, vol. v. p. 110.

(K) In his treatise *Περὶ δαιμονίων ὅσα δοξασσῶσι εἰ Ἕλληνας*, quoted by Mr Clinch in the Anthologia Hibernica, for January 1794, p. 36.



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21. Having thus considered the origin and decline of the mysteries of Eleusis, and discovered in them numerous and prominent features of resemblance to those of free masonry; we may reasonably infer, that the Egyptian mysteries which gave rise to the former, had a still nearer affinity to the latter; and, from this conclusion, the opinions that were formerly stated, concerning the antiquity of the order, and the origin of Egyptian knowledge, will receive very considerable confirmation.

Origin and history of the Dionysian mysteries.

22. Let us now direct our attention to the Dionysia, or mysteries of Bacchus, which were intimately connected with those of Ceres, and, perhaps, still more with the mysteries of free masonry. Herodotus (L) informs us that the solemnities, in honour of Dionysius or Bacchus, were originally instituted in Egypt; and were transported from that country into Greece, by one Melampus. But not only did the mysteries of Ceres and Bacchus flow from the same source; the one was in some measure interwoven with the other, and it is almost certain, from what we are now to mention, that those who were initiated into the former, were entitled to be present at the celebration of the latter. The sixth day of the Eleusinian festival was the most brilliant of the whole. It received the appellation of Bacchus, because it was chiefly, if not exclusively, devoted to the worship of that god. His statue, attended by the initiated and the ministers of the temple, was conducted from Athens to Eleusis, with much pomp and solemnity (M). And after it had been introduced into the temple of Ceres, it was brought back to Athens with similar ceremonies. The connection between the Eleusinian and Dionysian mysteries is manifest, also, from the common opinion, that Ceres was the mother of Bacchus (N). And Plutarch assures us, that the Egyptian Isis was the prototype of Ceres; that Osiris was the same with Bacchus; and that the Dionysia of Greece was only another name for the Pamyria of Egypt (O). As Bacchus was the inventor of theatres, as well as of dramatical representations, that particular class of masons, who were employed in the erection of these extensive buildings, were called the Dionysian artificers (P), and were initiated into the mysteries of their founder, and consequently into those of Eleusis (Q). But, from the tendency of the human mind to embrace the ceremonial, while it neglects the substantial part of an institution, the Dionysian festival, in the degenerate ages of Greece, was more remarkable for inebriation and licentiousness, than for the cul-

tivation of virtue and of science; and he who was at first celebrated as the inventor of arts, was afterwards worshipped as the god of wine. Those who were desirous of indulging secretly in licentious mirth and unhallowed festivity, cloaked their proceedings under the pretence of worshipping Bacchus; and brought disgrace upon those mysteries, which were instituted for the promotion of virtue, and the improvement of art.

The Bacchanalia unconnected with the Dionysian mysteries.

23. About 200 years B. C. an illiterate and licentious priest came from Greece to Tuscany, and instituted the Bacchanalia, or feast of the Bacchanals (R). From Tuscany they were imported to Rome; but the promoters of these midnight orgies having proceeded to the farthest extremity of dissipation and disloyalty, they were abolished throughout all Italy, by a decree of the senate (S). It has been foolishly supposed, that the Bacchanalia were similar to the Dionysian mysteries, merely because they were both dedicated to Bacchus. The Liberalia of Rome was the festival corresponding to the Dionysia of Greece (T); and it is probable that this feast was observed throughout the Roman empire, till the abrogation of the Pagan theology in the reign of Theodosius. The opinion which an impartial inquirer would form, concerning the nature and tendency of the mysteries of Bacchus, would not be very favourable to the character of the institution. But it should be remembered that deviations from the intentions and form of any association, are no objection to the association itself. They are rather proofs of its original purity and excellence; as it is not from the paths of vice, but from those of virtue, that we are accustomed to stray.

The Liberalia were similar to the Dionysian mysteries.

24. Hitherto we have considered the Dionysian mysteries under an unpropitious aspect; let us now trace them in their progress from Europe to Asia, where they retained their primitive lustre, and effectually contributed to the rapid advancement of the fine arts.

25. About 1000 years B. C. (U), the inhabitants of Attica, complaining of the narrowness of their territory, and the unfruitfulness of its soil, went in quest of more extensive and fertile settlements. Being joined by a number of the inhabitants of surrounding provinces, they sailed to Asia Minor, drove out the inhabitants, seized upon the most eligible situations, and united them under the name of Ionia, because the greatest number of the refugees were natives of that Grecian province (X). As the Greeks, prior to the Ionic migration,

In consequence of the migration the Dionysian mysteries were established in Asia.

(L) Ελληνι γαρ δι Μελαμπος, εστι ο πηγαμινος τῶ Διονυσῶ το τε ενομοσ και την θυρην. Herodot. lib. ii. cap. 49.

(M) Anacharsis, tom. iii. p. 531. Plut. in Phoc. tom. i. p. 754. Meurf. in Eleuf. cap. 27.

(N) Potter, vol. i. p. 393.

(O) De Iside et Osiride. Idée du Gouvernement Ancien et Modern de l'Égypte, p. 26. Paris 1743.

(P) Διονυσιακοι τεχνιται. Aulus Gellius, lib. xx. c. 4.

(Q) Vid. Potter, vol. i. p. 41.

(R) Tit. Liv. lib. xxxix. cap. 8.

(S) Græcus ignobilis in Etruriam venit, nulla cum arte earum quas multas ad animorum corporumque cultum nobis eruditissima omnium gens invexit, sed sacrificulus et vatis.

(T) Liberalia (says Festus) liberi Festa, quæ apud Græcos dicuntur Dionysia. Vid. Universal History, vol. xiii. p. 262.

(U) Playfair places the Ionic migration in 1044 B. C. Gillies in 1055; and Barthelemy, the author of Anacharsis's Travels, in 1076.

(X) Herodotus, lib. i. cap. 142. Gillies's Hist. of Greece, 8vo. vol. i. p. 102.



Masonry. gration, had made considerable progress in the arts and sciences (Y), they carried these along with them into their new territories; and introduced into Ionia the mysteries of Minerva and Dionysius (Z), before they were corrupted by the licentiousness of the Athenians. In a short time the Asiatic colonies surpassed the mother-country in prosperity and science. Sculpture in marble, and the Doric and Ionian orders, were the result of their ingenuity (A). They returned even into Greece; they communicated to their ancestors the inventions of their own country; and instructed them in that style of architecture which has been the admiration of succeeding ages. For these improvements the world is indebted to the *Dionysian artificers*, an association of scientific men, who possessed the exclusive privilege of erecting temples, theatres, and other public buildings in Asia Minor (B). They supplied Ionia, and the surrounding countries, as far as the Hellespont, with theatrical apparatus by contract; and erected the magnificent temple at Teos, to Bacchus, the founder of their order (C). These artists were very numerous in Asia, and existed, under the same appellation, in Syria, Persia, and India (D). About 300 years before the birth of Christ, a considerable number of them were incorporated, by command of the kings of Pergamus, who assigned to them Teos as a settlement, being the city of their tutelary god (E). The members of this association, which was intimately connected with the Dionysian mysteries, were distinguished from the uninitiated inhabitants of Teos, by the science which they possessed, and by appropriate words and signs, by which they could recognize their brethren of the order (F). Like free masons they were divided into lodges, which were distinguished by different names (G). They occasionally held convivial meetings in houses erected and consecrated for this purpose; and each separate association was under the direction of a

History of the Dionysian artificers.

Their resemblance to free masons.

master, and presidents, or wardens (H). They held a general meeting once a year, which was solemnized with great pomp and festivity; and at which the brethren partook of a splendid entertainment, provided by the master, after they had finished the sacrifices to their gods, and especially to their patron Bacchus (I). They used particular utensils in their ceremonial observances; some of which were exactly similar to those that are employed by the fraternity of free masons (K). And the more opulent artists were bound to provide for the exigencies of their poorer brethren (L). The very monuments which were reared by these masons, to the memory of their masters and wardens, remain to the present day, in the Turkish burying grounds, at Siverhissar and Eraki (M). The inscriptions upon them express, in strong terms, the gratitude of the fraternity, for their disinterested exertions in behalf of the order; for their generosity and benevolence to its individual members; for their private virtues, as well as for their public conduct. From some circumstances which are stated in these inscriptions, but particularly from the name of one of the lodges, it is highly probable, that Attalus, king of Pergamus, was a member of the Dionysian fraternity.

26. Such is the nature of that association of architects, who erected those splendid edifices in Ionia, whose ruins even afford us instruction, while they excite our surprise. If it be possible to prove the identity of any two societies, from the coincidence of their external forms, we are authorized to conclude, that the fraternity of the Ionian architects, and the fraternity of free masons, are exactly the same; and as the former practised the mysteries of Bacchus and Ceres, several of which we have shown to be similar to the mysteries of masonry; we may safely affirm, that, in their internal, as well as external procedure, the society of free masons resembles the Dionysiacs of Asia Minor (N).

27. The

- (Y) According to the author of Anacharsis's Travels, the arts took their rise in Greece about 1547, B. C.  
 (Z) Chandler's Travels in Asia Minor, p. 100, 410. 1775. The Panathenea and the Dionysian mysteries were instituted about 300 years before the Ionic migration.  
 (A) Gillies's Hist. Ant. Greece, vol. ii. p. 162.  
 (B) Strabo, lib. iv. Chishull Antiquitates Asiaticæ, p. 107. Robison's Proofs of a Conspiracy, p. 20.  
 (C) Ionian Antiquities, published by the Society of Dilettanti, p. 4. Strabo, lib. iv. Chishull Antiq. Asiat. p. 139.  
 (D) Και τα Διονυσια την Ασιαν όλην καθιερωσαντες μέχρι της Ινδικης. Strabo, p. 471. Ionian Antiquities, p. 4.  
 (E) Chandler's Travels, p. 100. Chishull Antiq. Asiat. p. 138. Ionian Antiquities, p. 4.  
 (F) Robison's Proofs of a Conspiracy, p. 20.  
 (G) One of these lodges was denominated Κοινον των Ατταλιστων, i. e. Commune Attalistarum; and another Κοινον της Εχινια Συμμοριου, i. e. Commune Sodalitii Echini. Chishull, p. 139.  
 (H) See the two decrees of these artists preserved by Chishull, p. 138—149. The place where they assembled is called συνοικια, contubernium; and the society itself, sometimes συναγωγη, collegium; αιρεσις, secta; συνοδος, synodus; κοινος, communitas. See Aulus Gellius, lib. viii. cap. xi.  
 (I) Chandler's Travels, p. 103.  
 (K) See the decree of the Attalists in Chishull, particularly the passages at the bottom of p. 141, 142; ἀνολιπεν δε και τα προς ευσχηροσιν εν τω τεμεινε χρησηρια ικανα, i. e. in delubro etiam, ultra ea quae ornamento erant, non pauca utensilia reliquit.  
 (L) Chishull, p. 140.  
 (M) Chandler's Travels, p. 100. These monuments were erected about 150 years B. C. The inscriptions upon them were published by Edmund Chishull, in 1728, from copies taken by Consul Sberard in 1709, and examined in 1716. Ionian Antiquities, p. 3.  
 (N) Dr Robison, who will not be suspected of partiality to free masons, ascribes their origin to the Dionysian artists.



Masonry. The existence of free masonry at the building of Solomon's temple not improbable.

27. The opinion, therefore, of free masons, that their order existed, and flourished at the building of Solomon's temple, is by no means so pregnant with absurdity as some men would wish us to believe. We have already shown, from authentic sources of information, that the mysteries of Ceres and Bacchus, were instituted about 400 years before the reign of Solomon (O); and there are strong reasons for believing, that even the association of the Dionysian architects existed before the building of the temple. It was not, indeed, till about 300 years before the birth of Christ, that they were incorporated at Teos, under the kings of Pergamus; but it is universally allowed, that they arose long before their settlement in Ionia, and, what is more to our present purpose, that they existed in the very land of Judea (P). It is observed by Dr Robison (Q), that this association came from Persia into Syria, along with that style of architecture which is called Grecian: And since we are informed by Josephus (R), that that species of architecture was used at the erection of the temple; there is reason to infer, not only that the Dionysiacs existed before the reign of Solomon, but that they assisted this monarch in building that magnificent fabric, which he reared to the God of Israel. Nothing, indeed, can be more simple and consistent than the creed of the fraternity, concerning the state of their order at this period. The vicinity of Jerusalem to Egypt; the connection of Solomon with the royal family of that kingdom (S); the progress of the Egyptians in architectural science; their attachment to mysteries and hieroglyphic symbols; and the probability of their being employed by the king of Israel, are additional considerations, which corroborate the sentiments of free masons, and absolve them from those charges of credulity and pride with which they have been loaded.

Objection answered.

28. To these opinions, it may be objected, that if the fraternity of free masons flourished during the reign of Solomon, it would have existed in Judea in after ages, and attracted the notice of sacred or profane historians. Whether or not this objection is well founded, we shall not pretend to determine; but if it can be shown, that there did exist, after the building of the temple an association of men, resembling free masons,

in the nature, ceremonies, and object of their institution; the force of the objection will not only be taken away, but additional strength will be communicated to the opinion which we have been supporting. The association here alluded to, is that of the Essenes, whose origin and sentiments have occasioned much discussion among ecclesiastical historians. They are all of one mind, however, respecting the constitution and observances of this religious order.

29. When a candidate was proposed for admission, the strictest scrutiny was made into his character (T). If his life had hitherto been exemplary; and if he appeared capable of regulating his conduct according to the virtuous though austere maxims of their order, he was presented, at the expiration of his noviciate, with a white garment, as an emblem of the correctness of his conduct and the purity of his heart (U). A solemn oath was then administered to him, that he would never, even at the risk of his life, divulge the mysteries of the order; that he would make no innovations on the doctrines of the society; and that he would continue in that honourable course of piety and virtue which he had begun to pursue (X). Like free masons, they instructed the young member in the knowledge which they derived from their ancestors (Y). They admitted no women into their order (Z). They had particular signs for recognising each other, which have a strong resemblance to those of free masons (A). They were divided into separate lodges or colleges (B). They had different places of meeting, where they practised their rites, and settled the affairs of the society; and, after the performance of these duties, they assembled in a large hall, where an entertainment was provided for them by the president, or master of the college, who allotted a certain quantity of provisions to every individual (C). They abolished all distinctions of rank; and, if preference was ever given, it was given to piety, liberality, and virtue (D). Stewards were appointed in every town, to supply the wants of indigent strangers (E). The Essenes pretended to higher degrees of piety and knowledge, than the uninitiated vulgar; and though their pretensions were high, they were never questioned by their enemies. Austerity of manners was one of the chief characteristics of the Essenean fraternities:

(O) According to Playfair's Chronology, the temple of Solomon was begun in 1016, and finished in 1008, B. C. The Eleusinian mysteries were introduced into Athens in 1356 B. C. a considerable time after their institution.

(P) Robison's Proofs of a Conspiracy, p. 20.

(Q) Proofs of a Conspiracy, p. 20, 21.

(R) Jewish Antiquities, book viii. chap. v.

(S) Josephus's Jewish Antiquities, book viii. chap. ii.

(T) Joseph. de Bello Judaico, lib. ii. cap. 1.

(U) Id. id.

(X) Id. id.

(Y) Philo de Vita Contemplativa, apud opera, p. 691. Bafnage, b. ii. ch. 13. § 8.

(Z) Bafnage, b. ii. ch. 12. § 26. Id. Id. § 22.

(A) In order to be convinced of this, our brethren of the order may consult some of the works already quoted; particularly, Philo's Treatise de Vita Contemplativa, apud opera, p. 691.

(B) Bafnage, b. iii. c. 12. § 14. vid. opera Philonis, p. 679. When Philo, in his Treatise entitled "Quod omnis probus Liber," is describing the society of the Essenes, he employs the same terms to denote the association itself, and their places of meeting, which are used in the decree of the Dionysians already mentioned. Vide Philo de Vita Contemplativa, p. 691.

(C) Joseph. de Bello Judaico, lib. ii. cap. i.

(D) Id. Id. § 20, 22. Philonis Opera, p. 678.

(E) Bafnage, b. iii. c. 12. § 20. chap. 13. § 1.



**Masonry.** ties: They frequently assembled, however, in convivial parties; and relaxed for a while the severity of those duties which they were accustomed to perform (F). This remarkable coincidence between the chief features of the masonic and Essenian fraternities, can be accounted for, only by referring them to the same origin. Were the circumstances of resemblance either few or fanciful, the similarity might have been merely casual. But when the nature, the object, and the external forms of two institutions, are precisely the same, the arguments for their identity are something more than presumptive. There is one point, however, which may, at first sight, seem to militate against this supposition. The Essenes appear to have been in no respects connected with architecture, nor addicted to those sciences and pursuits which are subsidiary to the art of building. That the Essenes directed their attention to particular sciences, which they pretended to have received from their fathers, is allowed by all writers; but, whether or not these sciences were in any shape connected with architecture, we are, at this distance of time, unable to determine. Be this as it may, uncertainty upon this head, nay, even an assurance that the Essenes were unconnected with architectural science, will not affect the hypothesis which we have been maintaining. For there have been, and still are, many associations of free masons, where no architects are members, and which have no connection with the art of building. But if this is not deemed a sufficient answer to the objection, an inquiry into the origin of the Essenes will probably remove it altogether, while it affords additional evidence, for the identity of the masonic and Essenian associations.

**The Essenes originated from the Kasideans, who were bound to preserve the temple of Jerusalem.** 30. Sacred and profane historians have entertained different opinions concerning the origin of the Essenes. They all agree, however, in representing them as an ancient association, originating from particular fraternities, which formerly existed in the land of Judea (G). Pliny refers them to such a remote antiquity (H), that they must have existed during the reign of Solomon; and even Basnage, who is the only writer that seems disposed to consider them as a recent association, confesses that they existed under Antigonus, about 300 years before the Christian era (I). Scaliger contends, with much appearance of truth, that the Essenes were descended from the Kasideans, who make such a conspicuous figure in the history of the Maccabees (K). The Kasideans were a religious fraternity, or an order

of the *Knights of the Temple of Jerusalem*, who bound themselves to adorn the porches of that magnificent structure, and to preserve it from injury and decay (L). This association was composed of the greatest men of Israel, who were distinguished for their charitable and peaceful dispositions (M); and always signalized themselves by their ardent zeal for the purity and preservation of the temple (N). From these facts it appears, that the Essenes were not only an ancient fraternity, but that they originated from an association of architects, who were connected with the building of Solomon's temple. Nor was this order confined to the Holy Land. Like the fraternities of the Dionysiacs and free masons, it existed in all parts of the world (O); and though the lodges in Judea were chiefly, if not wholly, composed of Jews, yet the Essenes admitted into their order men of every religion, and every rank in life (P). They adopted many of the Egyptian mysteries (Q); and, like the priests of that country, the magi of Persia, and the gymnosophists in India, they united the study of moral with that of natural philosophy (R). Although they were patronized by Herod, and respected by all men for the correctness of their conduct, and the innocence of their order (S), they suffered severe persecutions from the Romans, till their order was abolished, about the middle of the fifth century (T); a period extremely fatal to the venerable institutions of Egypt, Greece, and Rome.

31. Connected with the Essenian and Masonic fraternities, was the institution of Pythagoras at Crotona. After this philosopher, in the course of his travels through Egypt, Syria, and Ionia, had been initiated into the mysteries of these enlightened kingdoms, he imported into Europe the sciences of Asia, and offered to the inhabitants of his native soil, the important benefits which he himself had received (U). The offers of the sage having been rejected by his countrymen of Samos (X), he settled at Crotona, in Italy, where more respect was paid to his person, and more attention to his precepts (Y). When the kindness of the Crotonians, and their solicitude to obtain scientific information, had inspired Pythagoras with some hopes of success, he selected a number of his disciples, who, from the similarity of their characters, the mildness of their dispositions, and the steadiness of their conduct, seemed best adapted for forwarding the purposes he had in view (Z). These he formed into a fraternity, or separate order of men, whom

(F) Dicam aliquid de sodalitatibus eorum, quoties hilarius convivia celebrant. Philonis opera, p. 692.

(G) Gale's Court of the Gentiles, part ii. book ii. chap. 6. p. 147. Serrarii Trihæret. lib. iii. cap. ii. Vid. etiam Basnage, b. ii. ch. 12. § 4.; and Picquet. Theolog. Chret. tom. iii. part iii. p. 106.

(H) Plin. lib. v. cap. 17. Vid. etiam Solinum, c. 35. p. 43. edit. Salmasii; and art. ESSENES.

(I) Basnage, book ii. chap. ii. § 8. Picquet. Theolog. Chret. tom. iii. part iii. p. 107.

(K) Scaliger de Emend. Temp.

(L) Scaliger Elench. Trihæretici Nicolai Serrarii, cap. 22. p. 441.

(M) 1 Maccabees, vii. 13.

(N) Scaliger ut supra.

(O) Basnage, b. ii. chap. 13. § 4.

(P) Id. Id. chap. 12. § 20. compared with chap. 13. § 4.

(Q) Id. Id. chap. 12. § 24.

(R) Philo's Treatise, entitled, "Quod omnis probus Liber," apud Opera, p. 678.

(S) Id. Id. chap. 12. § 13, 25.

(T) Basnage, b. ii. chap. 12. § 25, 26.

(U) Pythagoras returned from Egypt about 560 years before Christ.

(X) Iamblichus de vita Pythagoræ, part i. cap. 5. p. 37.

(Y) Id. Id. cap. 6. p. 42; 43.

(Z) Gillies's History of Ancient Greece, vol. ii. p. 27.



**Masonry.** whom he instructed in the sciences of the east (A), and to whom he imparted the mysteries and rites of the Egyptian, Syrian, and Ionian associations. Before any one was received into the number of his disciples, a minute and diligent enquiry was made into his temper and character (B). If the issue of this enquiry was favourable to the candidate, he bound himself, by a solemn engagement, to conceal, from the uninitiated, the mysteries which he might receive, and the sciences in which he might be instructed (C). The doctrines of charity, of universal benevolence, and especially of affection to the brethren of the order, were warmly recommended to the young disciples (D); and such was the influence which they had upon their minds, that discord seemed to have been banished from Italy (E), and the golden age to have again returned. Strangers of every country, of every religion, and of every rank in life, were received, if properly qualified, into the Pythagorean association (F). Like free masons they had particular words and signs, by which they might distinguish each other, and correspond at a distance (G). They wore white garments, as an emblem of their innocence (H). They had a particular regard for the east (I). They advanced from one degree of knowledge to another (K). They were forbidden to commit to writing their mysteries, which were preserved solely by tradition (L): The Pythagorean symbols and secrets were borrowed from the Egyptians, the Orphic and Eleusinian rites, the Magi, the Iberians, and the Celts (M). They consisted chiefly of arts and sciences, united with theology and ethics, and were communicated to the initiated in cyphers and symbols (N). An association of this nature, founded upon such principles, and fitted for such ends, did not remain long in obscurity. In a short time it extended over the kingdoms of Italy and Sicily, and was diffused even through ancient Greece, and the islands of the Egean sea (O). Like other secret societies, it was vilified by malicious men, who were prohibited from sharing its advantages, from the weakness of their minds and the depravity of their hearts (P). Chagrined with disappointment, and enflamed with rage, they often executed vengeance upon the innocent Pythagoreans, and even set fire to the lodges in which they

Re-  
sem-  
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Pythago-  
reans and  
free masons.

were assembled (Q). But the disciples of the sage perished in that honourable cause in which they had embarked; and, though the persecution of their enemies drove them from their native land, they still retained for each other the sympathy of brothers, and often suffered death in its most agonizing form, rather than violate the engagements into which they had entered (R). An attempt, like this, against the society of free masons, has been witnessed in our own day. It has not, indeed, proceeded to such an extremity of violence. The spirit of extirpation, however, existed in sentiment, though it had not the courage to display itself in action. Disaffection to government, and disrespect to religion, were charged upon them with all the confidence of truth: And, had the governments of Europe been weak enough to credit the fancies of a few political enthusiasts, their subjects might, at this moment, have been armed against each other, and the nations of the world embroiled in discord.

**Masonry.**

32. From these observations, it is manifest, that the Pythagorean and Masonic institutions were similar in their external forms, as well as in the objects which they had in view; and that both of them experienced, from contemporaries, the same unmerited reproach. Mr Clinch, in his *Essays on Free Masonry* (S), has enumerated, at great length, all the points of resemblance between these two institutions. He attempts to prove, that free masonry took its rise from the Pythagorean fraternity; but though he has been successful in pointing out a remarkable coincidence between these associations, he has no authority for concluding that the former originated from the latter. In a masonic manuscript, preserved in the Bodleian library, in the handwriting of King Henry VI. it is expressly said, that Pythagoras learned masonry from Egypt and Syria, and from those countries where it had been planted by the Phenicians; that the Pythagoreans carried it into France; and that it was, in the course of time, imported from that country into England (T). This, indeed, is no direct proof of our opinion; it shows us, at least, that the same sentiments have been entertained about four hundred years ago by the fraternity in England. It has been supposed by some philoso-  
phers

- (A) Aulus Gellius lib. i. cap. 9. Gillies, vol. ii. p. 27.  
 (B) Jamblichus de vita Pythagoræ, cap. 17. p. 76. Gillies vol. iii. p. 27.  
 (C) Jamblichus cap. 23. p. 104.  
 (D) Id. cap. 8. p. 53. cap. 33. p. 193. cap. 6. p. 43. cap. 23. p. 102. Basnage's History of the Jews, b. ii. cap. 13. § 21. Anthologia Hibernica for March 1794, p. 181.  
 (E) Jamblichus, cap. 7. p. 46.  
 (F) Gillies, vol. ii. p. 28. Jamblichus, cap. 33. p. 202.  
 (G) Gillies, vol. ii. p. 27. Anthologia Hibernica, for March 1794, p. 181.  
 (H) Basnage, b. ii. chap. 13. § 21. Anthologia Hibernica for March 1794, p. 183.  
 (I) Basnage, b. ii. chap. 13. § 21. (K) Jamblichus, cap. 17. p. 72.  
 (L) Jamblichus, part i. cap. 32. p. 191.  
 (M) Warburton's Divine Legation of Moses, book iii. sect. 3. vol. 2. p. 132, 133. Jamblichus, cap. 8. p. 139. Gillies, vol. ii. p. 27.  
 (N) Jamblichus, cap. 8. p. 139. Gillies ut supra.  
 (O) Gillies, vol. ii. p. 28. Jamblichus cap. 35. p. 207. (P) Id. Id. p. 200.  
 (Q) Jamblichus p. 208. et seq. (R) Id. Id. chap 32. p. 189.  
 (S) Published in the Anthologia Hibernica for 1794.  
 (T) Lives of Leland, Hearne, and Wood, Oxford, 1772. Appendix to the life of Leland, N<sup>o</sup> vii. A copy of this manuscript may be seen in every work on free masonry.



**Masonry.** phers (u), that Pythagoras derived his mysteries chiefly from the Essenes, who were at that time much respected and very numerous in Egypt and Syria. The wonderful similarity, indeed, between these societies, both in the forms which they had in common with free masonry, and in those lesser customs and ceremonies, which were peculiar to themselves, render such a supposition extremely probable. It is remarked by all ecclesiastical historians, that the Essenes were Pythagoreans, both in discipline and doctrine (x); without ever considering that the former existed some hundred years before the birth of Pythagoras (y). The Pythagoreans, therefore, were connected with the Essenes, and the Essenes with the Kasideans, who engaged to preserve and adorn the temple of Jerusalem.

**Objection answered.** 33. There is one objection to the view which we have taken of this subject, which, though it has already been slightly noticed, it may be necessary more completely to remove. Although it will be acknowledged by every unbiassed reader, that free masonry has a wonderful resemblance to the Eleusinian and Dionysian mysteries, the fraternity of Ionian architects, and the Essenian and Pythagorean associations; yet some may be disposed to question the identity of these institutions, because they had different names, and because some usages were observed by one, which were neglected by another. But these circumstances of dissimilarity arise from those necessary changes, which are superinduced upon every institution, by a spirit of innovation, by the caprice of individuals, and by the various revolutions in civilized society. Every alteration or improvement in philosophical systems, or ceremonial institutions, generally produces a corresponding variation in their name, deduced from the nature of the improvement, or from the name of the innovator. The different associations, for example, whose nature and tendency we have been considering, received their names from circumstances merely casual, and often of trifling consideration; though all of them were established for the same purpose, and derived from the same source. When the mysteries of the Essenes were imported by Pythagoras into Italy, without undergoing much variation, they were there denominated the mysteries of Pythagoras; and, in our own day, they are called the secrets of free masonry, because many of their symbols are derived from the art of building, and because they are believed to have been invented by an association of architects, who were anxious to preserve, among themselves, the knowledge which they had acquired (z). The difference in the ceremonial observances of these institutions may be accounted for nearly upon the same principles. From the ignorance, or superior sagacity of those who presided over the ancient fraternities, some ceremonies would be insisted upon more than others,

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some of less moment would be exalted into consequence, while others of greater importance would be depressed into obscurity. In process of time, therefore, some trifling changes would be effected upon these ceremonies, some rites abolished, and some introduced. The chief difference, however, between the ancient and modern mysteries, is, in these points which concern religion. But this arises from the great changes which have been produced in religious knowledge. It cannot be supposed that the rites of the Egyptian, Jewish, and Grecian religions, should be observed by those who profess only the religion of Christ; or that we should pour out libations to Ceres and Bacchus, who acknowledge no heavenly superior, but the true and the living God.

34. It may be proper here to take notice of an objection urged by M. Barruel, against the opinion of those, who believe that the mysteries of free masonry are similar to the mysteries of Egypt and Greece (A). From the unfairness with which this writer has stated the sentiments of his opponents on this subject; from the confidence and triumph with which he has proposed his own; and, above all, from the dissimilarity with which he has supported them, many inattentive readers may have been led to adopt his notions, and to form as despicable an idea of the understandings, as he would wish them to form of the character of masons. He takes it for granted, that all who embrace the opinion which we have endeavoured to support, must necessarily believe, that a unity of religious sentiments, and moral precepts, was maintained in all the ancient mysteries; and that the initiated entertained just notions of the unity of God, while the vulgar were addicted to the grossest polytheism. Upon this gratuitous supposition, which we completely disavow, because it has no connection with our hypothesis, does Barruel found all his declamations against the connection of our order with the Pythagorean and Eleusinian institutions. If this supposition, indeed, were true, his opinion would be capable of proof. But he is all the while combating the dogmas of Warburton, while he thinks he is overturning the antiquity of our order. There is perhaps in no language such a piece of downright sophistry as this portion of Barruel's work. He seems to scruple at no method, however base or dishonourable, that can bring discredit upon free masonry, and every thing connected with it. After having overturned the opinion of Warburton, he then attacks us on our ground, and stiles us the children of sophistry, deism, and pantheism, who deduce our origin from associations of men that were enemies to Christianity (B), and followed no guide but the light of nature. But this writer should recollect, that the son is not accountable for the degeneracy of his parents; and, if the ancient mysteries were the nurseries of such dangerous opinions, as this writer, in opposition

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(u) Faydit Lettre, Nouvelles de la Republique des Lettres, Octobre 1703, p. 472.

(x) Gregory's Church History, vol. i. cent. 1.

(y) Pliny, book 5. cap. 17. Solinus, cap. 35. p. 43.

(z) Symbols derived from the art of building, were also employed by the Pythagoreans, for conveying instruction to those who were initiated into their fraternity. Vid. Proclus in Eucl. lib. xi. def. 2. &c.

(A) Memoirs of Jacobinism, vol. ii. p. 355—360.

(B) Vid. Barruel, vol. ii. p. 357. I do not find in any system of chronology, that Christianity existed in the time of Pythagoras, or at the establishment of the Eleusinian mysteries!



Masonry. tion to authentic history, lays to their charge, it is to the glory of their posterity, that they have shaken off the yoke, and embraced that heavenly light which their ancestors affected to despise.

Modern history of free masonry.

35. Having finished what may properly be denominated the ancient history of free masonry, we are now to trace its progress from the abolition of the heathen rites, in the reign of Theodosius, to the present day; and, though the friends and enemies of the order seem to coincide in opinion upon this part of its history, the materials are as scanty as before, and the incidents equally unconnected. In those ages of ignorance and disorder which succeeded the destruction of the Roman empire, the minds of men were too much debased by superstition, and contracted by bigotry, to enter into associations for promoting mental improvement and mutual benevolence. The spirit which then reigned, was not a spirit of enquiry. The motives which then influenced the conduct of men, were not those benevolent and correct principles of action which once distinguished their ancestors, and which still distinguish their posterity. Sequestered habits and unsocial dispositions characterized the inhabitants of Europe, in this season of mental degeneracy; while free masons, actuated by very different principles, inculcate on their brethren the duties of social intercourse, and communicate to all within the pale of their order, the knowledge which they possess and the happiness which they feel. But, if science had existed in these ages, and if a desire of social intercourse had animated the minds of men, the latter must have languished for want of gratification, as long as the former was imprisoned within the walls of a convent, by the tyranny of superstition, or the jealousy of power. Science was in these days synonymous with heresy; and had any bold and enlightened man ventured upon philosophical investigations, and published his discoveries to the world, he would have been regarded by the vulgar as a magician, and punished as a heretic by the church of Rome. These remarks may be exemplified and confirmed by an appropriate instance of the interfering spirit of the Romish church, even in the sixteenth century, when learning had made considerable advancement in Europe. The celebrated Baptista Porta having, like the sage of Samos, travelled into distant countries for scientific information, returned to his native home, and established a society which he denominated the academy of secrets. He communicated the information which he had collected to the members of this association, who, in their turn, imparted to their companions the knowledge which they had individually obtained. But this little fraternity, advancing in respectability and science, soon trembled under the rod of ecclesiastical oppression; and experienced in its dissolution, that the Romish hierarchy was determined to check the ardour of investigation, and retain the human mind in its former fetters of ignorance and superstition. How then could free masonry flourish, when the minds of men had such an unfortunate propensity to monkish retirement, and when every scientific and

The academy of secrets established by Baptista Porta.

secret association was overawed and persecuted by the rulers of Europe? Masonry.

36. But, though the political and intellectual condition of society was unfavourable to the progress of free masonry; and, though the secret associations of the ancients were dissolved in the fifth century, by the command of the Roman emperor, yet there are many reasons for believing that the ancient mysteries were observed in private, long after their public abolition, by those enemies of Christianity who were still attached to the religion of their fathers. Some authors (c) even inform us, that this was actually the case, and that the Grecian rites existed in the eighth century, and were never completely abolished, (Art. 20.). These considerations enable us to connect the heathen mysteries, with that trading association of architects, which appeared, during the dark ages, under the special authority of the see of Rome.

It is probable that the ancient mysteries were observed privately after their abolition.

37. The insatiable desire for external finery, and gaudy ceremonies, which was displayed by the catholic priests in the exercise of their religion, introduced a corresponding desire for splendid monasteries, and magnificent cathedrals. But as the demand for these buildings was urgent, and continually increasing, it was with great difficulty that artificers could be procured, even for the erection of such pious works. In order to encourage the profession of architecture, the bishops of Rome, and the other potentates of Europe, conferred on the fraternity of free masons the most important privileges; and allowed them to be governed by laws, customs, and ceremonies, peculiar to themselves. The association was composed of men of all nations, of Italian, Greek, French, German, and Flemish artists, who were denominated free masons, and who, ranging from one country to another, erected those elegant churches and cathedrals, which, though they once gratified the pride and sheltered the rites of a corrupted priesthood, now excite the notice of antiquarians, and administer to the grandeur of kingdoms. The government of this association was remarkably regular. Its members lived in a camp of huts, reared beside the building in which they were employed. A surveyor, or master, presided over and directed the whole. Every tenth man was called a warden, and overlooked those who were under his charge; and such artificers as were not members of this fraternity, were prohibited from engaging in those buildings which free masons alone had a title to rear (d). It may seem strange, and perhaps inconsistent with what we have already said, that the fraternity of free masons should have been sanctioned, and even protected by the bishops of Rome. Secret associations, indeed, are always a terror to temporal and spiritual tyranny. But the church of Rome, instead of approving of the principles of free masonry, by the encouragement and patronage which they gave to architects, only employed them as instruments for gratifying their vanity, and satiating their ambition. For in after ages, when masons were more numerous, and when the demand for religious structures was less urgent than before, the bishops of Rome deprived the fraternity of those

Trading association of architects during the dark ages.

(c) Gibbon, 8vo. vol. v. p. 110.

(d) Wren's Parentalia, or a History of the Family of Wren, p. 306, 307. Henry's History of Great Britain, 8vo. vol. viii. p. 273. b. iv. chap. 5. § 1. Robison's Proofs of a Conspiracy, p. 21.



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those very privileges which had been conferred upon them without solicitation, and persecuted, with unrelenting rage, the very men whom they had voluntarily taken into favour, and who had contributed to the grandeur of their ecclesiastical establishment.

Introduction of free masonry into Scotland.

38. Wherever the catholic religion was taught, the meetings of free masons were sanctioned and patronized. The principles of the order were even imported into Scotland (E), where they continued, for many ages, in their primitive simplicity, long after they had been extinguished in the continental kingdoms. In this manner, Scotland became the centre from which these principles again issued, to illuminate, not only the nations on the continent, but every civilized portion of habitable world. What those causes were which continued the societies of free masons longer in Britain than in other countries, it may not, perhaps, be easy to determine; but as the fact itself is unquestionable, it must have arisen, either from some favourable circumstances in the political state of Britain, which did not exist in the other governments of Europe; or from the superior policy, by which the British masons eluded the suspicion of their enemies, and the superior prudence with which they maintained the primitive simplicity and respectability of their order. The former of these causes, had, without doubt, a considerable share, in producing the effect under consideration; and we know for certain, that, in our own days, the latter has preserved free masonry in a flourishing condition throughout these united kingdoms, while, in other countries, the imprudence and foolish innovations of its members, have exposed it to the severest and justest censure, and, in many cases, to the most violent persecutions. It is a fact, requiring no confirmation, and resulting from the most obvious causes, that free masonry never flourishes in seasons of public commotion; and even in Great Britain, though the seat of war is commonly in foreign countries, it has universally declined. But in those lands which are the theatre of hostilities, it will be neglected in a still greater degree; and, if these hostilities are long continued, or frequently recur, the very name and principles of the order must be soon extinguished. Amid those continual wars, therefore, which, during the middle ages, distracted and desolated the continent of Europe, the association of architects would be soon dissolved; while in the humble village of Kilwinning, on the western coast of Scotland, they found a safe retreat from the violent convulsions of continental wars.

Connection between free masons and the knights templars.

39. Before we detail the progress of free masonry, after its importation into Britain, it will be necessary to give some account of the knights templars, a fraternity of free masons whose affluence and virtues often raised the envy of contemporaries, and whose unmerited and unhappy end must have often excited the compassion of posterity. It would be needless labour to enter into

any investigation, in order to prove, that the order of the knights templars was a branch of free masonry. This fact has been invariably acknowledged by free masons themselves; and none have been more zealous to establish it than the enemies of their order (F). The former have admitted the fact, not because it was creditable to them, but because it was true; and the latter have supported it, because by the aid of a little sophistry, it might be employed to disgrace their opponents.

History of the knights templars.

40. The order of the knights templars was instituted during the crusades, in the year 1118, by Hugo de Paganis, and Geoffroy of St Omers. It received this appellation because its members originally resided near the church in Jerusalem, which was dedicated to our Saviour. Though the professed object of this religious association was to protect those Christian pilgrims, whose mistaken piety had led them to the holy city; yet it is almost beyond a doubt, that its chief and primary intention, was to practise and preserve the rites and mysteries of masonry. We know at least, that the knights templars, not only possessed the mysteries, but performed the ceremonies, and inculcated the duties of free masons; and it is equally certain, that the practising of these rites could contribute nothing to the protection and comfort of the Catholic pilgrims. Had the templars publicly avowed the real object of their institution, instead of that favour which they so long enjoyed, they would have experienced the animosity of the church of Rome. But as they were animated with a sincere regard for the Catholic religion, and with a decided abhorrence for the infidel possessors of Judea, it was never once suspected that they transacted any other business at their secret meetings, but that which concerned the regulation of their order, the advancement of religion, and the extirpation of its enemies. The many prodigies of valour which they exhibited against the infidels; the many charitable deeds which they performed towards the distressed pilgrims; and the many virtues which adorned their private character, procured them, from the rulers of Europe, that respect and authority to which they were so justly entitled, and which they so long maintained. But respect and authority were not the only rewards which they purchased by their virtues and military prowess. From the munificence of the popes, the generosity of the pious princes and nobles of Europe, and from the gratitude of those opulent pilgrims, who, in the moments of distress, had experienced their kind assistance, the knights templars had acquired such immense possessions in every kingdom of Europe, but particularly in France, that their revenues often exceeded those of the secular princes. Thus independent in their circumstances, and being fatigued with those unsuccessful struggles against the infidels, which they had maintained with such manly courage, they returned to their native land to enjoy,

(E) A. D. 1140. *Vid.* Statistical Account of Scotland, vol. xi. Parish of Kilwinning; or Edinburgh Magazine for April 1802, p. 243.

(F) *Vid.* Barruel's Memoirs of Jacobinism, vol. ii. p. 379—383. where this is attempted at some length. As Barruel, however, was unacquainted with the observances of the templars and masons, he has attributed to both many absurd rites which probably never existed but in his own mind. For the same reason he has omitted many points of resemblance which would have established the common opinion upon an immovable foundation.



Mafony. in peace and quiet, the recompense of their toils. But, like all men who are suddenly transported from danger and fatigue, to opulence and ease, many of the templars deviated from that virtuous course which they had hitherto pursued, and indulged too freely in those luxuries and fashionable amusements to which they were invited by opulence, and impelled by inactivity. Thus, from the indiscretions of a few, did the knights templars lose a considerable share of those honours, and that celebrity, which they had long enjoyed. But this relaxation of discipline, and attachment to luxurious indolence, were the only crimes of which the templars were guilty; and to men of honour and spirit like them, the forfeiture of popularity, which was the consequence of their apostasy, would be a sufficient punishment. This, however, was not the sentiment of Philip the Fair. That barbarous monarch, incited by private revenge against some individuals of the order; encouraged by the prospect of sharing in their ample revenues; and spurred on by a spirit which seldom resides in a human breast, imprisoned in one day all the templars in France, merely at the instance of two worthless members of the order, who had been disgraced and punished by their superiors, for the enormity of their crimes. It was pretended by these base accusers, that the templars abused our Saviour, that they spit upon his cross, that they burned their children, and committed other atrocious crimes, from which the human mind recoils with horror, and which could have been perpetrated only by men so completely abandoned as the informers themselves. Under the pretence of discovering what degree of credit might be attached to these accusations, the templars were extended on the rack till they confessed the crimes with which they were charged. Several of the knights, when stretched on this instrument of agony, made every acknowledgement which their persecutors desired. But others, retaining on the rack that fortitude and contempt of death which they had exhibited in the field, persisted in denying the crimes laid to their charge, and maintained with their latest breath, the innocence of their order. Many of those, even, who had tamely submitted to their persecutors, retracted those ignominious confessions which the rack had extorted; and maintained their integrity in the midst of those flames which the barbarous Philip had kindled for their destruction. Fifty-nine of these unhappy men were burnt alive at Paris, by a slow fire; and the same vindictive and inhuman spirit was exhibited in the other provinces of France, and in the other nations of Europe. The fortitude which, in every country, was displayed by these unfortunate sufferers, could have been inspired by innocence alone; and is a strong proof, that their minds were not so enervated by indolence, nor their bodies so enfeebled by luxury, as has been generally believed. The only murmurs which parted from their lips, were those which expressed their anguish and remorse, that they had betrayed, in the hour of pain, the interests of their order, and had confessed themselves guilty of crimes unworthy of a templar and a man.

41. But the atrocious scene was yet to come which was

Mafony. to complete the ruin of the templars, and satiate the vengeance of their enemies. Their grand master Molay, and other dignitaries of the order still survived; and, though they had made the most submissive acknowledgements to their unrelenting persecutors, yet the influence which they had over the minds of the vulgar, and their connection with many of the princes of Europe, rendered them formidable and dangerous to their oppressors. By the exertion of that influence, they might restore union to their dismembered party, and inspire them with courage to revenge the murder of their companions; or, by adopting a more cautious method, they might rebel, by uncontrovertible proofs, the charges for which they suffered; and, by intersting all men in their behalf, they might expose Philip to the attacks of his own subjects, and to the hatred and contempt of Europe. Aware of the dangers to which his character and person would be exposed by pardoning the surviving templars, the French monarch commanded the grand master and his brethren to be led out to a scaffold, erected for the purpose, and there to confess before the public, the enormities of which their order had been guilty, and the justice of the punishment which had been inflicted on their brethren. If they adhered to their former confessions, a full pardon was promised to them; but if they should persist in maintaining their innocence, they were threatened with destruction on a pile of wood, which the executioners had erected in their view, to awe them into compliance. While the multitude were standing around in awful expectation, ready, from the words of the prisoners, to justify or condemn their king, the venerable Molay, with a cheerful and undaunted countenance, advanced, in chains, to the edge of the scaffold; and, with a firm and impressive tone, thus addressed the spectators. "It is but just, that in this terrible day, and in the last moments of my life, I lay open the iniquity of falsehood, and make truth to triumph. I declare then, in the face of heaven and earth, and I confess, though to my eternal shame and confusion, that I have committed the greatest of crimes; but it has been only in acknowledging those that have been charged with so much virulence upon an order, which truth obliges me to pronounce innocent. I made the first declaration they required of me, only to suspend the excessive tortures of the rack, and mollify those that made me endure them. I am sensible what torments they prepare for those that have courage to revoke such a confession. But the horrible sight which they present to my eyes, is not capable of making me confirm one lie by another. On a condition so infamous as that, I freely renounce life which is already but too odious to me. For what would it avail me to prolong a few miserable days, when I must owe them only to the blackest of calumnies (c)." In consequence of this manly revocation, the grand master and his companions were hurried into the flames, where they retained that contempt of death which they had exhibited on former occasions. This mournful scene extorted tears from the lowest of the vulgar. Four valiant knights, whose charity and valour had procured them the gratitude and applause of mankind, suffering,

Death of the grand master and other dignitaries.



Masonry. without fear, the most cruel and ignominious death, was indeed, a spectacle well calculated to excite emotions of pity in the hardest hearts; and, whatever opinion we may entertain concerning the character of that unhappy order, every mind of sensibility will compassionate the fate of the templars, and curse the inhuman policy of Philip the Fair.

The innocence of the knights templars considered.

42. From this short and imperfect account of the origin and ruin of the knights templars, the reader will be enabled to understand the merits of the question, respecting the innocence of that order, which it will be necessary here to consider. The opinions of contemporary writers were too much influenced by party spirit, and religious zeal, to deserve any regard in this investigation. All those writers (H), however, who are generally deemed impartial historians, and who were in no respects interested, either in the condemnation or acquittal of the templars, have, without hesitation, pronounced them innocent of the crimes laid to their charge, and imputed their destruction to the avarice and private resentment of Philip. In the decision of these historians, the public had, in general, acquiesced, till their sentiments were unsettled by the bold pretensions, and the sophistical reasoning of Barruel. This writer has charged upon the templars all those crimes with which their enemies had formerly loaded them: he has attempted to justify the severity of the French king, and has reproached, with the bitterest invective, the society of free masons, because they were once connected with a fraternity, which, in his opinion, was so wicked and profane. While we endeavour, therefore, to defend the templars against these recent calumnies, we shall, at the same time, be maintaining the respectability of the masonic institution, by vindicating its members from that imputed depravity, which, according to Barruel, they have inherited from their fathers.

43. In order to form an impartial judgement respecting any sentence which has been passed, without proper evidence, either against individuals or associations, it is necessary to be acquainted with the motives and character of the accusers, and with the benefits which might accrue to them and the judges, by the punishment or liberation of the accused. In the case before us, the accusers had been disgraced and imprisoned by the accused, for their villany and crimes. Their chief prosecutor and judge was actuated by motives of avarice and private resentment; and many rival orders who had been languishing in obscurity and indigence, propagated with assiduity the slanderous tale, in hopes of sharing in those ample possessions, and that public favour, which had been acquired by the superior abilities of the knights templars. To all ranks of men, indeed, the veneration which the name of a templar inspired, was an object of envy: their opulent revenues were calculated to give trouble to a covetous mind, and the remarkable regularity of their conduct was no small incitement to the exercise of detraction. Such were the motives and prospects of their judges and accusers. Let us attend now to the accusations which were

brought against them, and we shall find that these could scarcely come under the cognizance of law, as their pretended crimes were committed against themselves, and not against society. Did they perpetrate murder upon any of their fellow-citizens?—This was never laid to their charge. Did they purloin any man's treasures?—Of theft they were never accused. Did they instigate to rebellion the subjects of any government, or plot destruction against the person of any king?—Under such a character they were never known, till Barruel called them traitors and regicides; because, forsooth, it was his opinion, that their successors, the free masons in France, were accessory to the murder of their king. What then were their crimes? it was said, that they burned their own infants! and yet an instance was never produced, in which the child of a templar had disappeared, and in which the tenderness of a mother, as would certainly have happened, remonstrated against the murder of her child. They were said to have committed the most unnatural of all crimes! and yet, no individual produced a specific instance which he could corroborate by indubitable proof. They were accused of insulting the cross of Christ; and yet they had shed their blood in the defence of his religion. Of crimes like these, one may conceive a depraved individual to have been guilty; but to believe, that a respectable fraternity, consisting of thousands of members, could be capable of such enormities, requires a degree of faith to which the most credulous will scarcely attain.

44. The innocence of the templars, and the injustice of Philip, will be still more apparent, by considering the conduct of the latter, as related even by Barruel. This writer observes, "That two men, who had been imprisoned for their crimes, declared that they had some important discoveries to make concerning the knights templars, and that this declaration, though entitled to little credit, made the king determine on the dissolution of the order, and arrest on one day all the templars in his kingdom (1)." Here then was the most flagrant injustice in the very threshold of the whole affair. Without summoning a single witness; without examining a single templar; without consulting a single friend; without even knowing what the important discoveries were which the criminals had to make; the French king *determined* on the destruction of the templars, on the destruction of an order whose grand master had been his particular friend, and even the god-father of one of his children (K). This latter circumstance, indeed, is brought forward by Barruel, to justify the conduct of Philip, because he sacrificed the duties of friendship to the principles of justice. But, when we take it in connection with the rest of his conduct, it must inspire every honest mind with a more degrading opinion of the head and heart of that persecuting monarch.

45. Such being the premature and precipitant determination of Philip, we may consider the order of the templars as at that time dissolved, and regard all those examinations,

(H) Among these we may reckon Hume, History of England, vol. ii. p. 373. Henry, History of Britain, vol. viii. p. 43. and Vertot, *ut supra*.

(1) Memoirs of Jacobinism, vol. ii. p. 364.

(K) Id. Id. p. 366.



*Masonry.* examinations, inquiries, confessions, trials, and councils which succeeded, as mere phantoms of justice, conjured up by that crafty prince, to dazzle the eyes of his subjects, and sanctify the depravity of his own conduct. By keeping this circumstance in view, the intelligent reader will be enabled to understand the minute, though sometimes contradictory, details of historians, respecting the trial and confessions of the knights templars; and, notwithstanding the veil of justice with which the judges attempted to cover their proceedings, he will be enabled to develop the detestable principles upon which their trial was conducted, and the still more detestable motives which invited Clement V. to partake in the guilt of Philip the Fair.

46. The most formidable, and indeed the only plausible argument by which Barruel supports his opinions, is drawn from the confessions of the templars. He maintains that the avowals of the knights were free from compulsion, and that no set of men could be so base as to accuse their brethren of crimes, of which they believed them to be entirely innocent. But the fallacy of his reasoning will appear from the slightest reflection. It is a curious, though unquestionable fact, that, when an avowal must be made, men are more ready to accuse themselves of crimes of which they have never been guilty, than to confess those which they have actually committed. Such as have attended to the operation of their own minds, particularly in the earlier part of life, will acquiesce in this extraordinary truth; and those who have not had occasion to observe it, will find, upon consideration, that it is consonant to the constitution of the human mind. When a man confesses himself guilty of a crime which he has really perpetrated, he is exposed, not only to the reproaches of his own conscience, but to those of the world; and, should he, at any time, retract his confessions, he must be aware that every subsequent enquiry would only confirm the truth of his first deposition. But when a man, from a principle of fear, acknowledges the truth of accusations with which he has been unjustly loaded, a sense of his integrity and innocence supports him under the opprobrium of the world, and he is conscious that his character will be vindicated by every investigation, and that the confessions which he himself made, may at any time be proved to have been the offspring of necessity. Such undoubtedly were the feelings by which the templars were actuated. Convinced, that the crimes which they were desired to acknowledge, were of such an unnatural kind, that they could never be imputed, by any reasonable man, to a numerous and hitherto respectable fraternity, they yielded to the solicitations of their persecutors; with the well-grounded hope that future enquiry would remove the stain which the irresistible desire of self-preservation had prompted them to throw upon their character. From this very consideration, indeed, namely, from the nature of the crimes charged upon the templars, have many eminent historians maintained the innocence of that unhappy order. But, were we even to allow with Barruel, in opposition to all history, that the avowals of the knights

were free and numerous; by an application of the principles already laid down, we would from that circumstance, prove the innocence, and not the guilt of the templars.

*Masonry.* 47. It is not, however, upon speculative principles alone, that we can account for the confessions and subsequent recantations of the knights. There are, fortunately, some historical facts which furnish a rational explanation of their conduct; but which Barruel, either from ignorance or design, has totally overlooked. About the commencement of the whole affair, Molay the grand master of the order, had been examined at Paris. From the causes already explained, but particularly from a dread of those torments, to which an obstinate avowal of his innocence would expose him, he made every confession which his persecutors demanded; but he at the same time transmitted circular letters to an immense number of his brethren, requesting them to make the same confessions with himself (L); for it was only by submissive conduct, that they could hope to disarm the fury of their enemies, and avert the blow which was threatened to their order. Agreeably to the request of Molay, many of the templars made the same acknowledgements; while others with a morality more inflexible, and courage more undaunted, disdained to do evil that good might come, and persevered unto death in the avowal of their own innocence, and that of their order. Molay, however, and those knights who had followed his example, soon perceived that though their submissions had protected them from injury as individuals, they had nevertheless rather inflamed the rage of Philip against the order; and being now convinced that their acknowledgements of guilt had produced an effect opposite to what they expected, they boldly retracted their former avowals, and adopted that intrepid conduct of which we have already given a short account. There is another circumstance connected with this part of our subject, which, though not taken notice of by historians, is well deserving of the reader's attention. It is asserted by all contemporary writers, whether the friends or adversaries of the templars, that all those knights who maintained their innocence, were condemned either to death, or to a punishment equally severe; while all who confessed, and adhered to their confessions, were either completely acquitted, or sentenced to a few days fasting and prayer, or a short imprisonment (M). It is allowed also by these historians, and even by Barruel, that a very considerable number of the templars were altogether ignorant of the crimes perpetrated by the rest, and that some who were privy to them, were not partakers in their guilt. In which class then are we to rank these innocent men? among those who suffered or among those who were saved? If among the former, their enemies were guilty of the most flagrant injustice and cruelty, in consuming the innocent on the same pile with the guilty. If among the latter, they must have been compelled to confess themselves guilty of crimes of which they were completely innocent.

48. In order to show that the confessions of the templars

(L) *Histoire de Chevaliers Hospitaliers*, par Abbé Vertot, tom. ii. p. 86.

(M) Some of them even received pensions for their confessions. See Vertot, tom. ii. 9. 91.



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plars were voluntary, and not extorted by the rack, Barruel is obliged to deny facts which are admitted by every historian. But, lest his readers should not be so sceptical on this point as himself, he takes care to inform them, that the bishops declared, that all whose confessions were extorted by the rack, should be regarded as innocent, and that no templar should be subject to it; that Clement V. rather favoured the templars, and that he sent the most venerable persons to interrogate those whose *age and infirmities* prevented them from appearing before him. But who were those aged and infirm templars to whom Clement is so compassionate? Were they men smarting under diseases inflicted by the hand of heaven? Were they men whose aged limbs were unfit for the fatigues of a journey, or whose gray hairs had excited the pity of the Roman pontiff? No—they were a few undaunted knights whom the blood-extorting screws of their tormentors had tortured and disabled; whose flesh had been lacerated on the rack, and whose bones had been disjointed or broken on the wheel. These are the men, who, in the language of the above writer, were prevented by *their age and infirmities* from travelling to Poitiers, or who, in the more simple stile of the Pope himself, were unable *to ride on horseback, or to bear any other method of conveyance whatsoever.*

49. Having thus endeavoured to vindicate the character of the templars from the accusations of their enemies, it will be necessary to make a few remarks respecting the ceremonial observances which are attributed to them and their posterity, by the author of the memoirs of Jacobinism. But this, our enemies well know, is forbidden ground, on which free masons are prohibited to enter by the laws of their order. It is here, consequently, that the most numerous, and apparently the most successful attacks have been made, for we can be provided with no means of defence without laying open the mysteries of the fraternity. Conscious of the disadvantages under which free masons labour, their adversaries have fabricated the most frightful and foolish ceremonies, and imposed them upon the world as the ceremonies of masonry. Among this number, may be reckoned those rites and oaths which Barruel ascribes to the templars and their posterity, but which, we solemnly aver, have no connection either with the one or the other; and, were we permitted to divulge to the world the whole of our ritual system, many who have duped the public by deceitful information, would stand abashed at their conduct; while others, who have confided in such information, would be astonished at the extent of their credulity. Then might free masons defy, as they have done in every other point, the fabrications of the malicious, and the conjectures of the ignorant: then, too, might they mock at the ingenuity of the wise. But, as they are bound to preserve from public view the rites of their order, it is highly disingenuous to assail them in a quarter where resistance is impossible, and where every unprincipled man may triumph with impunity. Is not this to assassinate an enemy with his hands tied behind his back? Is not this to reproach a foe who is deprived of the organs of utterance?

50. But there is another important consideration, which, while it points out in a more striking manner the disingenuity of such conduct, should, at the same

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time, incite the candid enquirer to reject every calumny against secret associations, arising from reports concerning their rites and ceremonies. If ever the secrets of free masonry were betrayed, they must have been betrayed by men who were completely destitute of religious principle; who paid no respect to those ties which unite the members of civil, as well as secret associations; who, in short, neither feared God, nor regarded man. Suppose, then, that a person, pretending to be a free mason, offered to communicate, either to an individual, or to the public, the rites and ceremonies of his order. What degree of credit should men of probity attach to the information thus received? A person addresses them under the character of a perjurer, offering to violate the most solemn engagements, and to divulge mysteries which have been concealed for ages. He may give them accurate information, or he may not. If the secrets which he offers to betray have been hitherto unknown, there is no possible way of ascertaining the truth of his deposition. And it is rather to be suspected, that he will dupe his auditors by false information, than trample upon an engagement, guarded by the most awful sanctions. He might, indeed, confirm by an oath, the truth of his asseveration; but, as he must have violated an oath equally solemn, no man of sense will give him the smallest credit. But, supposing that he really divulges the secrets and ceremonies of free masonry, it is clear, that he has not understood their true import, or, at least, that they have made no impression upon his mind. It is almost certain, therefore, that, from ignorance, or misapprehension of their meaning, he will exhibit, under an aspect calculated to excite ridicule, those rites and ceremonies, which, if properly explained, would command admiration. If then it be so difficult for the uninitiated to discover the secrets of free masonry, and still more so to ascertain their signification, if they should discover them; what must we think of those men who open their ears to every slanderous tale against free masons, which unprincipled men may impose upon their credulity? What must we think of those who reproach and vilify the order, upon the uncertain reports of cunning and interested men? We appeal to the impartial reader, if they are not equally base with the informers themselves.

51. Such are the considerations by which we would attempt to repel those charges and distorted facts, with which Barruel has calumniated the character, and figured the history of the templars. They will be sufficient, we hope, to remove those erroneous impressions which the perusal of the Memoirs of Jacobinism may have left upon the reader's mind. Although we have adopted the opinion of those who maintain the innocence of that unfortunate order, we cannot coincide with them in believing, that, as individuals, they were free from blame. The templars were possessed of the same nature, and influenced by the same passions as their fellow men; and they were, unquestionably, exposed to more strong and numerous temptations. Some of the knights, therefore, may have been guilty of crimes, and these too of an aggravated kind, which, by a strange, though not uncommon mistake, might have been transferred to their order. But it was never proved that they were traitors, class murderers, regicides, and infidels. A certain class of historians, indeed,



*Masonry.* deed, have imputed to them such iniquities; and, when unable to establish their assertions, have fixed upon their order the more probable crimes of drunkenness and debauchery. But, amidst all these accusations, we hear nothing of that valour which first raised the templars to pre-eminence; nothing of that charity and beneficence which procured them the respect of contemporaries; nothing of that fortitude and patience which most of them exhibited on the rack, and in the flames. In their case it has been too true, that

The evil which men do lives after them :  
The good is oft interred with their bones.

52. But allowing the templars to be as guilty as their enemies have represented them; upon what principles of sound reasoning, or of common sense, does Barruel transfer their guilt to the fraternity of free masons? Is it absolutely necessary, that the son should inherit the bodily diseases, and the mental debility of his forefathers? or is it fair, that one order, proposing to itself the same object, and instituted upon the same principles as another, should be charged also with the same crimes? Certainly not. If virtue and vice were hereditary qualities, free masons might arrogate to themselves much honour from their connection with the templars; but, as we have not been applauded for a templar's virtues, we should not be reproached for a templar's crimes. But the reasoning of Barruel is as repugnant to the dictates of experience, as it is to those of common sense. Were not the inhabitants of England, at one period, fanatics, rebels, and regicides? But where now is the nation that is more liberal in its religion, and more steady in its loyalty! Did not the French, at one time, torture, burn, and massacre their fellow citizens, from the fury of their religious zeal, and the strength of their attachment to the Catholic communion? But what nation under heaven was a few years ago less influenced by religious principles, and less attached to the church of Rome! Did not the rulers of France, at one time, torment and assassinate hundreds of the templars, because they deemed them infidels, traitors, and regicides? And have we not seen, in these latter days, the very rulers of France themselves, infidels, traitors, and regicides! But if the impartial reader should, upon farther inquiry, give credit to the guilt of the templars; in order to remove the imputed stain which has been transferred to free masons, it may be sufficient to address him in the words of the poet,

*Tempora mutantur, et nos mutamur in illis.*

*Origin and advantages of chivalry.* 53. About the time of the knights templars, chivalry had arrived at its highest perfection. It had its existence, indeed, prior to this period, but as it continued to influence the minds of men long after the destruction of that unhappy order, it was thought proper to defer its consideration till the present stage of our history. When chivalry made its first appearance, the moral and political condition of Europe was in every respect de-

plorable. The religion of Jesus existed only in name. A degrading superstition had usurped its place, and threatened ruin to the reason and the dignity of man. The political rights of the lower orders were sacrificed to the interest of the great. War was carried on with degree of savage cruelty, equalled only by the sanguinary contentions of the beasts of prey; no clemency was shown to the vanquished, and no humanity to the captive. The female sex, even, were sunk below their natural level: They were doomed to the most laborious occupations, and were deserted and despised by that very sex, on whose protection and sympathy they have so natural a claim. To remedy these disorders, a few intelligent and pious men formed an association, whose members swore to defend the Christian religion, to practise its morals, to protect widows, orphans, and the weaker sex; and to decide judicially, and not by arms, the disputes that might arise about their goods or effects. It was from this association, undoubtedly, that chivalry arose (N); and not, as some think, from the public investiture with arms which was customary among the ancient Germans. But, whatever was its origin, chivalry produced a considerable change in the manners and sentiments of the great. It could not, indeed, eradicate that ignorance and depravity which engendered those awful evils which we have already enumerated. It has softened, however, the ferocity of war. It has restored the fair sex to that honourable rank which they now possess, and which at all times they are entitled to hold. It has inspired those sentiments of generosity, sympathy, and friendship, which have contributed so much to the civilization of the world; and has introduced that principle of honour which, though far from being a laudable motive to action, often checks the licentious, when moral and religious considerations would make no impression upon their minds.

54. Such was the origin of chivalry and such the blessing which it imparted. That it was a branch of free masonry, may be inferred from a variety of considerations, from the consent of those who have made the deepest researches into one, and who were intimately acquainted with the spirit, rites, and ceremonies of the other. They were both ceremonial institutions. Important precepts were communicated to the members of each, for the regulation of their conduct as men, and as brethren of the order (O). The ceremonies of chivalry, like those of free masonry, though unintelligible to the vulgar, were always symbolical of some important truths (P). The object of both institutions was the same, and the members bound themselves, by an oath, to promote it with ardour and zeal (Q). In chivalry there were also different degrees of honour, through which the youths were obliged to pass before they were invested with the dignity of knighthood (R); and the knights, like free masons, were formed into fraternities or orders, distinguished by different appellations (S).

55 From

(N) Bontainvilliers on the Ancient Parliaments of France, letter fifth, quoted in Brydson's Summary View of Heraldry, pp. 24, 25, 26.

(O) Brydson's Summary View of Heraldry p. 31.

(R) Id. pp. 36, 37.

(S) Id. pp. 38, 40.

(P) Id. p. 95.

(Q) Id. p. 32.



**Masonry.** 55. From these circumstances of resemblance, we do not mean to infer that chivalry was free masonry under another name; we mean only to show that the two institutions were intimately connected; that the former took its origin from the latter, and borrowed from it, not only some of its ceremonial observances, but the leading features and the general outline of its constitution. These points of similarity, indeed, are in some cases so striking, that several learned men have affirmed that free masonry was a secondary order of chivalry, and derived its origin from the usages of that institution (T). For what reasons these authors deduce the forms of free masonry from the ceremonies of chivalry, it is difficult to conjecture. The only argument which they adduce, is the similarity of the institutions; but they do not consider, that this proves, with equal force, that free masonry is the parent of chivalry. We have already shown, that there were many secret institutions among the ancients, but particularly the fraternity of Dionysian architects, which resembled free masonry in every thing but the name; and it requires no proof that these fraternities arose many hundred years before the existence of chivalry. If then there be any resemblance between the institutions which we have been comparing, we must consider free masonry as the fountain, and chivalry only as the stream. The one was adapted to the habits of intelligent artists, and could flourish only in times of civilization and peace; the other was accommodated to the dispositions of a martial age, and could exist only in seasons of ignorance and war. With these observations, indeed, the history of both fraternities entirely corresponds. In the enlightened ages of Greece and Rome, when chivalry was unknown, free masonry flourished under the sanction of government, and the patronage of intelligent men. But, during the reign of Gothic ignorance and barbarity, which followed the destruction of imperial Rome, free masonry languished in obscurity, while chivalry succeeded in its place, and proposed to accomplish the same object by different means, which, though more rough and violent, were better suited to the manners of the age. And when science and literature revived in Europe, and scattered those clouds of ignorance and barbarism with which she had been overshadowed, chivalry decayed along with the manners that gave it birth, while free masonry arose with increasing splendour, and advanced with the same pace as civilization and refinement.

The connexion of chivalry and free masonry exemplified in the society of the templars.

56. The connection between chivalry and free masonry, is excellently exemplified in the fraternity of the knights templars. It is well known that this association was an order of chivalry, that the templars performed its ceremonies, and were influenced by its precepts; and we have already shown, that the same association was initiated into the mysteries, and practised

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**Masonry.** the rites of free masonry (Art. 39, 40.): But, though they then existed in a double capacity, it must be evident to all who study the history of the templars, that their masonic character chiefly predominated, and that they deduced the name of their institution, and their external observances, from the usages of chivalry, to conceal from the Roman pontiff the primary object of their order, and to hold their secret meetings free from suspicion or alarm. About this time, indeed, the church of Rome sanctioned the fraternity of operative masons, and allowed them to perform their ceremonies without molestation or fear. But this clemency, as we have already shown, was the offspring of necessity (Art. 37.); and the same interested motive which prompted his holiness to patronize that trading association, could never influence him to countenance the duplicity of the templars, or permit them to exist in their masonic capacity. It was the discovery, indeed, of their being free masons, of their assembling secretly, and performing ceremonies to which no stranger was admitted, that occasioned those awful calamities which befel their order. It will, no doubt, appear surprising to some readers, that such zealous defenders of the Catholic religion should practise the observances of an association, which the church of Rome has always persecuted with the bitterest hostility. But their surprise will cease, when it is recollected, that even about the middle of the 18th century, when free masonry was prohibited in the ecclesiastical states, by a papal bull, the members of the Romish church adopted the same plan. So much attached were they to the principles and practice of the fraternity, that they established a new secret association similar to that of free masonry, into which they professed to admit none but zealous abettors of the papal hierarchy. In this manner, by flattering the pride of the church, they eluded its vigilance, and preserved the spirit of free masonry, by merely changing its name, and professing to make it subservient to the interest of the pontificate.

57. Before leaving this subject, it may be interesting to some readers, and necessary for the satisfaction of others, to show in what manner the knights templars became depositaries of the masonic mysteries. We have already seen, that almost all the secret associations of the ancients either flourished or originated in Syria, and the adjacent countries. It was here that the Dionysian artists, the Essenes, and the Kafideans arose. From this country also came several members of that trading association of masons, which appeared in Europe during the dark ages (U); and we are assured, that, notwithstanding the unfavourable conditions of that province, there exists, at this day, on Mount Libanus, one of these Syriac fraternities (X). As the order of the templars, therefore, was originally formed in Syria, and existed there for a considerable time, it would be

The templars were initiated by Syriac fraternities.

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no

(T) Chevalier Ramfay, See Robison's Proofs of a Conspiracy, p. 39. Leyden's Preliminary Dissertation to the Complaynt of Scotland, pp. 67. 71. and the preface to Guilliam's Display of Heraldry, edit. 6th.

(U) Mr Clinch, who appears not to have been acquainted with this fact, supposes that free masonry was introduced into Europe by means of the Gypsies. Anthologia Hibernica, for April 1794, p. 280. There was such a constant communication between Asia and Europe in the time of the crusades, that the customs and manners of the one, must, in some measure, have been transferred to the other.

(X) Anthologia Hibernica, April 1794, p. 279.



**Masonry.** no improbable supposition that they received their masonic knowledge from the lodges in that quarter. But we are fortunately in this case not left to conjecture, for we are expressly informed by a foreign author (Y), who was well acquainted with the history and customs of Syria, that the knights templars were actually members of the Syriac fraternities.

History of free masonry in Britain.

58. Having thus compared free masonry with those secret associations which arose during the dark ages; let us now direct our attention to its progress in Britain, after it was extinguished in the other kingdoms of Europe. We have already seen that a trading fraternity of free masons existed in Europe during the middle ages; that many special favours were conferred upon it by the Roman see; that they had the exclusive privilege of erecting those magnificent buildings, which the pride of the church of Rome, and the misguided zeal of its members, had prompted them to rear; and that several masons travelled into Scotland, about the beginning of the 12th century, and imported into that country the principles and ceremonies of their order. And we have illustrated several causes which preserved this association in Britain after its total dissolution on the continent.

Free masonry introduced into Scotland.

59. That free masonry was introduced into Scotland by those architects who built the abbey of Kilwinning, is manifest, not only from those authentic documents, by which the existence of the Kilwinning lodge has been traced back as far as the end of the 15th century, but by other collateral arguments, which amount almost to a demonstration. In every country where the temporal and spiritual jurisdiction of the pope was acknowledged, there was a continual demand, particularly during the 12th century, for religious structures, and consequently for operative masons, proportional to the piety of the inhabitants, and the opulence of their ecclesiastical establishment; and there was no kingdom in Europe where the zeal of the inhabitants for popery was more ardent than in Scotland, where the kings and nobles were more liberal to the clergy, and where, of consequence, the church was more richly endowed (Z). The demand, therefore, for elegant cathedrals and ingenious artists, must have been proportionably greater than in other countries, and that demand could be supplied only from the trading association on the continent. When we consider, in addition to these facts, that this association monopolized the building of religious structures in Christendom; we are authorised to conclude, that those numerous and elegant ruins, which still adorn the villages of Scotland, were erected by foreign masons, who introduced into this island the customs of their order.

And also into England.

60. It was probably about this time, also, that free masonry was introduced into England; but whether the English received it from the Scotch masons at Kilwinning, or from other brethren who had arrived

from the continent, there is no method of determining. The fraternity in England, however, maintain, that St Alban, the proto-martyr, who flourished about the end of the third century, was the first who brought masonry to Britain; that the brethren received a charter from King Athelstane, and that his brother Edwin summoned all the lodges to meet at York, which formed the first grand lodge of England (A). But these are merely assertions, not only incapable of proof from authentic history, but inconsistent, also, with several historical events which rest upon indubitable evidence (B). In support of these opinions, indeed, it is alleged, that no other lodge has laid claim to greater antiquity than that of York, and that its jurisdiction over the other lodges in England has been invariably acknowledged by the whole fraternity. But this argument only proves that York was the birthplace of free masonry in England. It brings no additional evidence in support of the improbable stories about St Alban, Athelstane, and Edwin. If the antiquity of free masonry in Britain can be defended only by the forgery of silly and uninteresting stories, it does not deserve to be defended at all. Those who invent and propagate such tales, do not, surely, consider that they bring discredit upon their order by the warmth of their zeal; and that, by supporting what is false, they prevent thinking men from believing what is true.

**Masonry.**

61. After the establishment of the Kilwinning and York lodges, the principles of free masonry were rapidly diffused throughout both kingdoms, and several lodges were erected in different parts of the island. As all these derived their existence and authority from the two mother lodges, they were likewise under their jurisdiction and controul; and when any differences arose, that were connected with the art of building, they were referred to the general meetings of the fraternity, which were always held at Kilwinning and York. In this manner did free masonry flourish for a while in Britain, after it was completely abolished in every part of the world. But even here it was doomed to suffer a long and serious decline, and to experience those alternate successions of advancement and decay, which mark the history of every human institution. And, though during several centuries after the importation of free masonry into Britain, the brethren of the order held their public assemblies, and were sometimes prohibited from meeting by the interference of the legislature, it can scarcely be said to have attracted general attention till the beginning of the 17th century. The causes of this remarkable retardation which the progress of masonry experienced, it is by no means difficult to discover. In consequence of the important privileges which the order received from the church of Rome, many chose the profession of an architect, which, though at all times an honourable employment, was particularly in high request during the middle ages. On this account, the

Progress of free masonry in Britain.

(Y) Adler de Drufis Montis Libani. Rom. 1786.

(Z) The church possessed above one half of the property in the kingdom. Robertson's History of Scotland, vol. i. pp. 137, 65, 269.

(A) A. D. 926. Preston's Illustrations of Masonry, p. 148. Smith's Use and Abuse of Free Masonry, p. 51. Free Mason's Calendar 1778.

(B) See Dr Plot's Natural History of Staffordshire, chap. viii. pp. 316—318.



**Masonry.** the body of operative masons increased to such a degree, and the rage, as well as the necessity for religious edifices, was so much diminished, that a more than sufficient number of hands could, at any time, be procured for supplying the demands of the church, and of pious individuals. There being now no scarcity of architects, the very reason which prompted the church to protect the fraternity, ceased to exist; they, therefore, withdrew from them that patronage, which they had spontaneously proffered, and denied them even the liberty of holding their secret assemblies. But these were not the only causes which produced such a striking change in the conduct of the church, to the masonic order. The spirit of free masonry, as we have already said, was hostile to the principles of the church of Rome. The intention of the one was to enlighten the mind; the object and policy of the other to retain it in ignorance. When free masonry flourished, the power of the church must have decayed. The jealousy of the latter, therefore, was aroused; and, as the civil power in England and Scotland was almost always in the hands of ecclesiastics, the church and the state were combined against the principles and practice of free masonry (c). Along with these causes, the domestic and bloody wars, which convulsed the two kingdoms from the 13th to the 17th century, conspired, in a great degree, to produce that decline of the fraternity for which we have been attempting to account.

**Free masonry flourishes in the reign of Henry VI.** 62. But notwithstanding these unfavourable circumstances, free masonry seems to have flourished, and attracted the attention of the public in the reign of Henry VI. who, when a minor, ascended the throne of England in 1422. In the third year of his reign, indeed, the parliament passed a severe act against the fraternity, at the instigation of Henry Beaufort, bishop of Winchester, who was then entrusted with the education of the young king. They enacted that the masons should no longer hold their chapters and annual assemblies; that those who summoned such chapters and assemblies should be considered as felons; and that those who resorted to them should be fined and imprisoned (D). But it would appear that this act was never put in execution; for, in the year 1429, about five years after it was framed, a respectable lodge was held at Canterbury, under the patronage of the archbishop himself (E). When King Henry was able to take into his own hands the government of his kingdom, and to form an opinion of his own respecting the use and tendency of the masonic fraternity, in order to atone for

the rigorous conduct of his parliament, he not only permitted the order to hold their meetings without molestation, but honoured the lodges by his presence as a brother. Before he was initiated, however, into the mysteries of the order, he seems to have examined, with scrupulous care, the nature of the institution, and to have perused the charges and regulations of the fraternity, as collected from their ancient records. These facts are contained in a paper written in the reign of his successor, Edward IV. and confirmed by a manuscript in King Henry's own hand-writing, which is familiar to every person who has studied the history of the order. This manuscript consists of questions and answers respecting the nature and tendency of free masonry, and seems to be the result of the king's examination of some of the brethren before he became a member of the fraternity. It was first procured from the Bodleian library by the celebrated Mr Locke, who transmitted it to the earl of Pembroke, accompanied with explanatory notes (F). In the title of the manuscript, it is said to have been faithfully copied from the hand-writing of King Henry VI. by John Leland, antiquarian, who, according to Mr Locke, was the celebrated antiquary of that name who lived in the 16th century, and was appointed by King Henry VIII. at the dissolution of monasteries, to search for, and save such books as were worthy of preservation. As this manuscript was originally printed at Frankfort, I was led to inquire what grounds there were for believing that the explanatory notes, and the letter to the earl of Pembroke which accompany it, were the production of Mr Locke. But I found that this had been uniformly taken for granted by every writer upon the subject, though the circumstance is not mentioned in the large edition of Mr Locke's works. The style of the letter, however, and the acuteness of the annotations, resemble so much that philosopher's manner of writing, and the letter is so descriptive of Mr Locke's real situation at the time when it was written, that it is almost impossible to deny their authenticity. In the letter itself, which is dated 6th May 1696, Mr Locke remarks that he composed the notes for the sake of Lady Masham, who was become very fond of masonry, and that the manuscript had so much excited his own curiosity, that he was determined to enter into the fraternity the next time he went to London, which, he adds, will be very soon. Now Mr Locke was at this time residing at Oates, the country seat of Sir Francis Masham, as appears from one of his letters to Mr Molyneux,

**Masonry.**

Account of a curious masonic manuscript.

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which

(c) As a proof of the hostility of the church of Rome to secret associations which pretended to enlighten the mind, we mentioned (p. 53. supra) its treatment of the academy of secrets, instituted in the 16th century for the advancement of physical science. When a local and temporary institution drew down the vengeance of the Roman see, what must have been its conduct to a lodge of masons? A farther account of the academy of secrets may be found in Priestley's History of Vision, vol. ii.

(D) 3 Henry VI. cap. 2. A. D. 1425, see Ruffhead's Statutes. Dr Plot's Natural History of Staffordshire, chap. viii. p. 318.

(E) Manuscript Register of William Molart, prior of Canterbury, p. 28. entitled, *Liberatis generalis Domini Gulielmi prioris Ecclesie Christi Cantuarenfis, erga festum natalis Domini 1429.* In this Register are mentioned the names of the masters, wardens, and other members of the lodge.

(F) This manuscript was first printed at Franckfort in 1748, and afterwards reprinted in the London and Gentleman's Magazines for 1753. It may be seen in the lives of Leland, Hearne, and Wood, 8vo. Oxford, 1772, vol. i. pp. 96, 104. Appendix, N° viii.; and in Preston's Illustrations of Masonry, p. 110.



Masonry. which is dated Oates, March 30. 1696; and it appears, that he actually went to London a short time after the 6th of May; for another letter to the same gentleman is dated, London, 2d July 1696 (c). Notwithstanding these facts, Dr Plot maintains that free masonry was not patronised by King Henry VI. (H), and that those who have supported a different opinion, were ignorant of the laws and chronicles of their own country. Dr Plot may have been a good chemist and natural historian, but when our readers hear upon what foundation he has established his opinion, they will agree with us in thinking that he was a bad logician. He observes, that an act was passed in the king's minority, prohibiting all general assemblies and chapters of free masons, and that as this act was not repealed till 1562, by 5th Elizabeth, cap. 4. it was impossible that free masonry could be patronised in the same reign in which it was prohibited. The fact is, that the act was not repealed by 5th Elizabeth, cap. 4. which does not contain a single word about free masons. If Dr Plot's argument, therefore, proves any thing, it would prove that free masonry has not been patronised since the reign of Henry VI. for that act has never yet been repealed. But supposing that it was repealed, the prohibitory statute in Henry's reign might never have been put in execution, as very often happens; and Dr Plot himself remarks, that the act 5th Elizabeth was not observed. It is plain, therefore, that instead of being impossible, it is highly probable that King Henry patronised the fraternity. When they were persecuted by his parliament, he was only three years of age, and could neither approve nor disapprove of its sentence; and it was very natural, that when he came to the years of maturity, he should undo a deed which his parliament had dishonourably done.

Free masonry patronized in Scotland by King James I.

63. While free masonry was flourishing in England under the auspices of Henry VI. it was at the same time patronised, in the sister kingdom, by King James I. By the authority of this monarch, every grandmaster who was chosen by the brethren, either from the nobility or clergy, and approved of by the crown, was entitled to an annual revenue of four pounds Scots from each master mason, and likewise to a fee at the initiation of every new member. He was empowered to adjust any differences that might arise among the brethren, and to regulate those affairs, connected with the fraternity, which it was improper to bring under the cognizance of the courts of law. The grandmaster also appointed deputies or wardens, who resided in the chief towns of Scotland, and managed the concerns of the order, when it was inconvenient to appeal to the grandmaster himself (I).

And by King James II.

64. In the reign of James II. free masonry was by no means neglected. The office of grandmaster was granted by the crown to William St Clair, earl of Orkney and Caithness, baron of Roslin, and founder of the much admired chapel of Roslin. On account of

the attention which this nobleman paid to the interests of the order, and the rapid propagation of the royal art under his administration, King James II. made the office of grandmaster hereditary to his heirs and successors, in the barony of Roslin; in which family it continued till the institution of the grand lodge of Scotland. The barons of Roslin, in the capacity of hereditary grandmasters, held their principal annual meetings at Kilwinning, the birthplace of Scottish masonry, while the lodge of that village granted constitutions and charters of erection to those brethren of the order, who were anxious that regular lodges should be formed in different parts of the kingdom. These lodges all held of the lodge of Kilwinning; and, in token of their respect and submission, joined to their own name, that of their mother lodge, from whom they derived their existence as a corporation (K).

65. During the reigns of the succeeding Scottish monarchs, free masonry still flourished, though very little information can be procured respecting the state of the fraternity. In the privy seal book of Scotland, however, there is a letter dated at Holyroodhouse, 25th September 1590, and granted by King James VI. "to Patrick Copland of Udaught, for using and exercising the office of wardanrie over the art and craft of masonrie, over all the boundis of Aberdeen, Banff, and Kincardine, to had wardan and justice courts within the said boundis, and there to minister justice (L)." This letter confirms what has already been said concerning the state of masonry in Scotland. It proves beyond dispute, that the kings of Scotland nominated the office-bearers of the order; that these provincial masters, or wardens, as they were then called, administered justice in every dispute which concerned the "art and craft of masonrie;" that lodges were established in all parts of Scotland, even in those remote, and, at that time, uncivilized counties of Aberdeen, Banff, and Kincardine; and it completely overturns the unfounded assertion of Dr Robison, who maintains (M), that the celebrated antiquary Elias Ashmole, who was initiated in 1646, is the only distinct and unequivocal instance of a person being admitted into the fraternity who was not an architect by profession.

66. The minutes of St Mary's chapel, which is the oldest lodge in Edinburgh, extend as far back as the year 1598; but as they contain only the ordinary proceedings of the lodge, we can derive from them no particular information respecting the customs and condition of the fraternity. It appears, however, from these minutes, that Thomas Boswell, Esq. of Auchinleck, was made a warden of the lodge in the year 1600; and that the honourable Robert Moray, quartermaster-general to the army in Scotland, was created a master mason in 1641. These facts are deserving of notice, as they show, in opposition to Dr Robison, that persons were early admitted into the order, who were not architects by profession.

67. When

(C) Locke's Works, folio, vol. iii.

(H) Natural History of Staffordshire, cap. viii. p. 318.

(I) Charter. Hay's MSS. see art. 66.

(L) Privy Seal Book of Scotland, 61. F. 47.

(M) Proofs of a Conspiracy, p. 21.

(K) Such as Canongate Kilwinning, &c.



**Malnery.**  
The Sin-  
clairs of  
Rollin are  
pointed he-  
reditary  
grand ma-  
sters.

**Malnery.**

67. When James VI. ascended the throne of England, he seems to have neglected his right of nominating the office-bearers of the craft. In Hay's manuscript in the advocates library, there are two charters granted by the Scotch malons, appointing the Sinclairs of Rollin their hereditary grandmasters. The first of these is without a date, but signed by several malons who appoint William St Clair of Rollin, his heirs and successors, their "patrons and judges." The other is, in some measure, a ratification of the first, and dated 1630, in which they appoint Sir William St Clair of Rollin, his heirs and successors, to be their "patrons, protectors, and overseers, in all time coming." In the first of these deeds, which seems to have been written a little after the union of the crowns, it is stated, that for some years the want of a protector had engendered many corruptions among the malons, and had considerably retarded the progress of the craft; and that the appointment of William Sinclair, Esq. was, with the advice and consent of William Shaw, master of work to his majesty. After presiding over the order for many years, William St Clair went to Ireland, where he continued a considerable time; and, in consequence of his departure, the second charter was granted to his son Sir William St Clair, investing him with the same powers which his father enjoyed. It deserves also to be remarked, that in both these deeds, the appointment of William Sinclair, earl of Orkney and Caithness, to the office of grandmaster, by James II. of Scotland, is spoken of as a fact well known, and universally admitted. These observations will set in a clear point of view what mult hitherto have appeared a great inconsistency in the history of Scotch malnery. In the deed by which William Sinclair, Esq. of Rollin, resigned the office of hereditary grandmaster in 1736, it is stated that his ancestors, William and Sir William St Clair of Rollin, were constituted patrons of the fraternity by the Scotch malons themselves; while it is well known, that the grant of hereditary grandmaster was originally made by James II. of Scotland, to their ancestor, William Sinclair, earl of Orkney and Caithness. But, when we consider that James VI. by not exercising his power, virtually transferred to the craft the right of electing their office-bearers, the inconsistency vanishes; for Mr Sinclair and his predecessors, as far back as the date of these charters, held their office by the appointment of the fraternity itself. Left any of Mr Sinclair's posterity, however, might, after his resignation, lay claim to the office of grandmaster, upon the pretence that this office was bequeathed to them by the grant of James II. to the earl of Caithness and his heirs; he renounces not only the right to the office which he derived from the brethren, but any right also, which, as a descendant of the earl of Caithness, he might claim from the grants of the Scotch monarchs.

68. Notwithstanding those civil commotions which disturbed Britain in the 17th century, free malnery flourished in Scotland, under the auspices of the Sinclairs of Rollin. No particular event, however, which is worthy of notice, occurred during that time, or even

during the remainder of the century. The annual assemblies of the fraternity were still held at Kilwinning, and many charters and constitutions were granted by the lodge of that village, for the erection of lodges in different parts of the kingdom.

69. In the year 1736, William St Clair of Rollin, who was then grandmaster of Scotland, was under the necessity of disposing his estate, and, as he had no children of his own, he was anxious that the office of grandmaster should not be vacant at his death. Having, therefore, assembled the Edinburgh and neighbouring lodges, he represented to them the utility that would accrue to the order, by having a gentleman or nobleman, of their own choice, as grandmaster of malnery in Scotland; and, at the same time, intimated his intention to resign into the hands of the brethren, every title to that office which he at present possessed, or which his successors might claim from the grants of the Scotch kings, and the kindness of the fraternity. In consequence of this representation, circular letters were dispatched to all the lodges of Scotland, inviting them to appear, either by themselves or proxies, on next St Andrew's day, to concur and assist in the election of a grandmaster. When that day arrived, about 22 lodges assembled, and, after receiving the deed of resignation from William Sinclair, proceeded to the election of another grandmaster; when, on account of the zeal which William Sinclair of Rollin had always shown for the honour and prosperity of the order, he was unanimously elected to that high office, and proclaimed grandmaster of all Scotland. Thus was instituted the grand lodge of Scotland, which continues to flourish at the present day.

70. We have already brought down the history of malnery in England to the end nearly of the 14th century. During the whole of the 16th, and the beginning of the 17th century, no events occurred which can be inserted in a general history of the order. The lodges continued to meet, but seem neither to have attracted the notice, nor excited the displeasure of the legislature.

71. During the civil wars, however, between the Free masonry and the parliament, the fraternity appears to have been better known; and many were initiated into its mysteries, who were equally distinguished by their literary talents, and their rank in life. Elias Ahmole informs us, that he and Colonel Mainwaring were admitted into the order at Warrington, in October 1646 (N). This gentleman was the celebrated antiquarian who founded the Ahmolean museum at Oxford. His attachment to the fraternity is evident from his diligent inquiries into its origin and history, and his long and frequent attendance upon its meetings (O). Charles II, too, was a member of the fraternity, and frequently honoured the lodges with his presence (P). From this fact, chiefly, Dr Robison asserts, that free malnery was employed by the royalists for promoting the cause of their sovereign, and that the ritual of the master's degree seems to have been formed, or twisted from its original institution, in order to found the political principles

The office of grandmaster resigned by W. Sinclair.

Institution of the grand lodge of Scotland in 1736.

Free masonry flourished during the civil wars.

(N) Ahmole's Diary, p. 15.

(P) Proofs of a Conspiracy, p. 22.

(O) Id. p. 66.



Masonry. ples of the candidate (Q). The strained and fanciful analogy by which this opinion is supported, is perhaps one of the most striking instances that could be adduced to show, to what puerile arguments the most learned will resort, when engaged in the defence of a desperate cause. But though Dr Robison maintains, that all who witnessed the ceremonies of the master's degree during the civil wars, could not fail to show, by their countenances, to what party they belonged, yet he observes, in another part of his work, that the symbols of masonry seemed to be equally susceptible of every interpretation, and that none of these were entitled to any decided preference (R). Such inconsistencies as these it is not easy to explain.

Free masonry is supposed by some to have originated in the time of the commonwealth. Aburdity of this opinion.

72. An opinion of an opposite nature, though equally extravagant, has been maintained by Pivati (S), and the author of "Free Masonry Examined." These writers assert, that free masonry originated in the time of the English commonwealth; that Oliver Cromwell was its inventor; that the level was the symbol of republican equality; and that the other signs and ceremonies were merely arbitrary, and formed for concealing their political designs. It would be ridiculous to enter into a serious refutation of such opinions as these, which are founded on the most unpardonable ignorance. That free masonry existed before the time of Cromwell is as capable of demonstration, as that Cromwell himself ever existed. It is really entertaining to observe, what inconsistent and opposite opinions are formed upon the same subject. According to one writer, free masonry was invented and employed by the adherents of the king; according to another, it was devised by the friends of the parliament. In the opinion of some it originated among the Jesuits, who used it for the promotion of their spiritual tyranny and superstition; while others maintain, that it arose among a number of unprincipled sceptics, who employed it for destroying the spiritual tyranny and superstition of the Jesuits!

73. It was about this time, according to Dr Robison, that free masonry was introduced among the continental kingdoms. After James II. of England had abdicated the throne, and taken refuge in France with several of his adherents, it is probable that they would communicate additional spirit to the French lodges; but that the English refugees were the first who exported masonry from Britain, or that they employed it for re-establishing the Stuart family on the English throne, it is impossible to prove. Such assertions Dr Robison has not only hazarded, but has employed them also as the foundation of defamatory conclusions, without adducing a single proof in their support. Notwithstanding the difficulty, however, of determining the precise period when the principles of free masonry were

Masonry. imported into France, it is manifest, from the universal consent of the continental lodges, that it was of British origin; and it is more than probable, that the French received it from Scotland about the middle of the 16th century, during the minority of Queen Mary. It is well known, that there was at that time a freer intercourse between Scotland and France than at any other period. Mary queen of Scots was then married to the heir-apparent of France; and Mary of Guise, sister to the French king, was at the same time regent of Scotland. In consequence of this intimate connection between the two kingdoms, French troops were sent to the assistance of the Scots, who, having resided many years in the kingdom, and habituated to the manners and customs of their allies, would naturally carry along with them into their native country, those customs which afforded them pleasure; and none we know could be more congenial to the taste and dispositions of Frenchmen, than the ceremonial observances of free masonry. But it is not upon these considerations merely that our opinion depends. It receives ample confirmation from a fact, of which Dr Robison seems to have been totally ignorant. In the year 1645, a particular jurisdiction for masons, called *maçonnerie*, or *masonry*, was established in France. All differences which related to the art of building, were decided by particular judges who were called overseers of the art of masonry; and several counsellors were appointed for pleading the causes, which were referred to their decision (T). This institution has such a striking resemblance to the warden courts which existed in Scotland in the 16th century, art. 65. that it must have derived its origin from these. In both of them, those causes only were decided which related to masonry, and overseers were chosen in both for bringing these causes to a decision (U). But as similar tribunals were held in no other part of the world, and as the warden courts were first established in Scotland, it is almost certain, that the French borrowed from the Scots the idea of their masonic tribunal, as well as free masonry itself, at that particular period when there was such a free communication between the two kingdoms. That the French received free masonry from Scotland, may be presumed also from the singular pre-eminence which was always given by foreigners to Scottish masonry, and from the degree of *Chevalier Maçon Ecoffois*, which, as a mark of respect to Scotland, the French had added to the three symbolical degrees of masonry about the beginning of the 18th century. Had free masonry not been introduced into France till after the revolution in 1688, as Dr Robison affirms, it is wonderful how such a fact should have been so quickly forgotten; for it was unknown about 30 or 40 years afterwards, at what period the French received

(Q) Proofs of Conspiracy, p. 21.

(R) Id. p. 99.

(S) Pivati Art. Liberi Muratori auvero Francs Maçons Venezia, quoted by Mr Clinch.

(T) Maçonnerie est aussi le nom d'une juridiction particulière pour les maçons: Elle se tient au palais à Paris, et les appellations sont portées au parlement: cette juridiction a été établie en 1645. Ceux qui l'exercent sont appelés Generaux des Oeuvres de Maçonnerie de France. Ils connoissent de differends entre les ouvriers concernant le fait des batimonts. La maçonnerie a des procureurs particulières, differens de ceux de parlement, qu' cependant peuvent y plaider. Dictionnaire de Trevoux, vol. v. p. 23.

(U) See Appendix, N° ii.



Masonry. received it from Britain; and, if the exiled family had employed free masonry, for overturning the Hanoverian succession, it is still more strange that such a circumstance should be unknown in a country, where concealment was certainly unnecessary. When any new custom is introduced into a nation, the time of its introduction may be remembered for 70 or 80 years by one individual, without being committed to writing; and, though it be not of sufficient importance, tradition will preserve it from oblivion for a much greater length of time. If free masonry, therefore, never existed in France till after the revolution in 1688, is it not absurd to suppose, that the period when such a singular institution was established, should be utterly forgotten at the distance of 30 or 40 years from its establishment, though, during that time, it was never persecuted by the French government?

Innovation upon free masonry in France. 74. But, at whatever period, and from whatever source free masonry was introduced into France, it assumed there a very remarkable form. The attachment of that people to innovation and external finery, produced the most unwarrantable alterations upon the principles and ceremonies of the order. A number of new degrees were created; the office-bearers of the craft were arrayed in the most splendid and costly attire; and the lodges were transformed into lecturing rooms, where the wiser brethren supported the most extravagant opinions, discussed the abstrusest questions in theology and political economy, and broached opinions hostile to the interests of true religion and sound government. In the other countries of the continent, similar innovations, in a greater or less degree, prevailed, while the British lodges preserved the principles of the craft in their primitive simplicity and excellence. Such dangerous innovations have not the smallest connection with the principles of free masonry. They are unnatural excrescences formed by a warm imagination, and fostered by the interference of designing men. Those who reprehend free masonry, therefore, for the changes which it underwent in the hands of foreigners, may throw equal blame upon religion, because it has been a cloak for licentiousness and hypocrisy; or, upon science, because it has been converted into an instrument of iniquity. The changes of which we have been treating, arose altogether from the political condition of the countries where they were made. In France, and the other kingdoms of Europe, where popery was the ecclesiastical establishment, or where absolute power was in the hands of their monarchs, the most slavish restraints were imposed upon the conduct and conversation of the people. None durst utter his own sentiments, or converse upon such metaphysical subjects as militated against the theology and politics of the times. Under such restraints speculative men, in particular, were highly dissatisfied. Those powers which heaven had bestowed, and on the exercise of which their happiness depended, were fettered by human laws, and that liberty of speech restrained which tyranny had no right to controul. For these reasons, the lodges were frequented by men of philosophical habits, who eagerly embraced an opportunity of publishing their sentiments, and discussing the favourite objects of their study, without dreading the threats of government, or the tortures of the inquisition. In this view, the lodges may be compared to little republics, enjoying the rational liberties of human nature,

in the midst of an extensive empire, enslaved by despotism and superstition. In the course of time, however, that liberty was abused, and doctrines were propagated in the French and German lodges, which it is the duty and policy of every government to discourage and suppress. But these corruptions had by no means a necessary connection with free masonry: they arose wholly from the political condition of the continental kingdoms. In Britain, where the order subsisted much longer than in any other country, its history is stained by no glaring corruptions or offensive innovations; more attention was paid to the intrinsic value of the order, than to its external observances; and the British lodges had a greater resemblance to charitable meetings, than to pompous and splendid assemblies. Blessed with a free constitution, and the enjoyment of every liberty which does not approach to licentiousness, the British masons were under no temptation to introduce into their lodges religious and political discussions. The liberty of the press enables them to give the widest circulation to their opinions, however new or extravagant; and they are liable to no punishment, by publicly attacking the established religion of their country. The British lodges, therefore, have retained their primitive purity; they have been employed in no sinister cause; they have harboured in their bosom neither traitors, nor atheists, nor French philosophers.

75. While the French were busily engaged in the decoration of their lodges, and in the invention of new degrees and trifling ceremonies, the masons in England were more wisely employed in extending the boundaries of the royal art. About the beginning of the 18th century, during the reign of Queen Anne, free masonry seems to have rapidly declined in the south of England. Four lodges only existed in the south, and few hopes could be entertained of revival, while the seat of the grand lodge was at such a distance as the city of York. In such circumstances the four lodges met in 1717, and, in order to give vigour to their declining cause, and advance the interests of the fraternity in the south, they elected themselves into a grand lodge, and chose Anthony Sayer, Esq. for their first grandmaster. Thus was instituted the grand lodge of England, which has now attained to such a pitch of prosperity and splendour. The motive which suggested this institution, was certainly laudable and useful; but every person must be aware, that the four lodges were guilty of a considerable impropriety in omitting to request the countenance of the grand lodge of York. Notwithstanding this negligence, the greatest harmony subsisted between the two grand lodges till 1734; and under the auspices of both, the order flourished in every part of the kingdom, but particularly in the south of England, where it had formerly been in such a languishing condition. In the year 1734, however, the grand lodge of England having granted constitutions to lodges within the district of York, without the consent of their grand lodge, incurred to such a degree the displeasure of the York masons, that the friendly intercourse which had formerly subsisted between them, was completely broken off; and the prosperity of the one was always viewed by the other with a suspicious eye. In 1739 also some trifling innovations upon the ancient customs of the order, having been imprudently sanctioned by the grand lodge of England, several of the old London masons,

Masonry.  
Causes of the purity of the British lodges.

Institution of the grand lodge of England in 1717.



Masonry. masons were highly offended, and, after seceding from the grand lodge, and pretending to act under the York constitution, they gave themselves the appellation of *Ancient Masons*, while they attached to those connected with the grand lodge the odious appellation of *Moderns*, who, in their opinion, never existed till the year 1717. The ancient masons, after their secession, continued to hold their meetings, without acknowledging a superior, till the year 1772, when they chose for their grandmaster the duke of Athol, who was then grandmaster elect for Scotland. Since that period both the grand lodges of England have attained to a high degree of prosperity; but such is their mutual antipathy, that the members of the one have no correspondence or communion with those of the other. The Irish and Scottish masons, however, who seem rather to favour the ancients, hold communion with both the grand lodges, and are allowed to be present at all their meetings. It is much to be regretted, that such respectable bodies as the two grand lodges of England, should retard the progress of masonry by their mutual jealousies and dissensions. Schisms in societies generally arise from misconduct on both sides, which was certainly the case in the schism under consideration. The moderns undoubtedly departed from their usual caution and propriety of conduct, by authorising the slightest innovations upon the ceremonies of an ancient institution. But the ancients have been guilty of a greater impropriety by being the active promoters of the schism; and still more, by holding up the moderns to the ridicule of the public. If these errors, however, were mutually acknowledged, and buried in oblivion, that breach would soon be repaired which has so long separated the two lodges, and which the Scottish and Irish masons have always regarded with pity and indignation.

Free masonry introduced into different parts of the world.

76. After the institution of the grand lodge of England in 1717, free masonry assumed a bolder and a more independent aspect. It was no longer confined to the British isles, or to the capital of France, but was destined to irradiate every portion of the globe; and, while the grand lodges of Scotland and England contemplated with pleasure the propagation of the royal art, their diligence was fully rewarded by the gratitude and liberality of the foreign lodges, for the gift which they received.

Into the East Indies, America, Germany Africa, &c.

77. In the year 1729 free masonry was introduced into the East Indies; and, in a short time after, a provincial grandmaster was appointed to superintend the lodges in that quarter. In 1730 the grand lodge of Ireland was instituted; lodges were erected in different parts of America; and a provincial deputation granted to M. Thuanus, for the circle of Lower Saxony. A patent was sent from England in 1731, to erect a lodge at the Hague, in which Francis Stephen, duke of Lorraine, and afterwards emperor of Germany, was initiated into the order; and provincial grandmasters were appointed for Russia, and Andalusia in Spain. In 1736 lodges were erected at Cape Coast, in Africa, and at Geneva; and provincial deputations were granted for Upper Saxony and the American islands. In 1738, a lodge was instituted at Brunswick, under the patronage of the grand lodge of Scotland, in which the late king of Prussia was initiated when prince royal. His majesty was so pleased with the maxims and ceremonies of the order, that he, ever afterwards, was its most zealous

partizan, and even requested that a lodge should be established in the capital of his own dominions. In this lodge many of the German princes were initiated, who afterwards filled the office of grandmaster, with much honour to themselves, and advantage to the fraternity.

Masonry.

78. But while free masonry flourished in these different parts of the world, and in many other places which it would be tedious to enumerate, it was doomed to undergo a variety of persecutions from the unfounded jealousies of a few despotic rulers, and the deep rooted superstition of a few Catholic priests. These persecutions took their rise in Holland in the year 1735. The States General were alarmed at the rapid increase of free masons, who held their meetings in every town under their government; and as they could not believe that architecture and brotherly love were their only objects, they resolved to discountenance their proceedings. In consequence of this determination, an edict was issued by government, stating, that though they had discovered nothing in the practices of the fraternity, either injurious to the interests of the republic, or contrary to the character of good citizens; yet, in order to prevent any bad consequences which might ensue from such associations, they deemed it prudent to abolish the assemblies of free masons. Notwithstanding this prohibition, a respectable lodge continued to meet privately at Amsterdam; but intelligence having been communicated to the magistrates, all the members were arrested and brought before the court of justice. At this tribunal, in presence of all the magistrates of the city, the masters and wardens boldly defended themselves; and declared upon oath, that they were loyal subjects, faithful to their religion, and zealous for the interests of their country; that free masonry was an institution venerable in itself, and useful to society; and that though they could not reveal the secrets and ceremonies of their order, they could assure the judges that they were contrary to the laws neither of God nor man, and that they would willingly admit into their order any individual in whom the magistrates could confide, and from whom they might receive such information as would satisfy a reasonable mind. In consequence of these declarations, the brethren were dismissed, and the town secretary requested to become a member of the fraternity. After initiation he returned to the court of justice, and gave such a favourable account of the principles and practice of the society, that all the magistrates became brethren of the order, and zealous patrons of free masonry.

Free masons persecuted in Holland.

79. After free masonry had thus honourably triumphed over her persecutors in Holland, she had to contend in France with prejudices equally inveterate though less insuperable. Although many persons of distinction defended the fraternity, and expostulated with the court on the impropriety of severe measures, their assemblies were abolished in 1737, under the common pretext that some direful design was concealed beneath their inviolable secrets, hostile to religion, and dangerous to the kingdom. But when these ebullitions of party spirit and private malice had subsided, the prohibition of government was gradually forgotten, and the fraternity in France recovered their former prosperity and splendour.

Free masonry persecuted in France;

80. In Germany too, the tranquillity of the order was

And in Germany.



Masonry. was disturbed by the intrigues of some ignorant females. Some German ladies, who possessed more curiosity than is common to their sex, were anxious to discover the secrets of free masonry. Having been baffled in all their attempts on the fickleness of their husbands, and the fondness of their admirers, they converted their curiosity into revenge, and attempted to inflame the mind of Maria Theresa the empress queen, against the lodges in Vienna. Their attempt was in some measure successful, as they persuaded her to issue an order for surprising all the masons in the city when assembled in their lodges. This plan, however, was frustrated by the intervention of the emperor Joseph I. who being himself a mason, pledged himself for the good conduct of his brethren, and shewed the ladies and their friends, that their charges against the order were false and defamatory.

Free masons persecuted in Italy. 81. When the flame of persecution is once kindled, its devastations are seldom confined to the spot where it originated. The example of one nation is urged as an excuse for the conduct of another; and like the storm on the sandy desert, its effects are ruinous in proportion to its progress. In Holland and France the hostility of the government against free masonry was soon disarmed. But when the flame reached the ecclesiastical states of Italy, its effects were more baneful and its duration more lengthened. In the year 1738, a formidable bull was thundered from the conclave, not only against free masons themselves, but against all those who countenanced a set of men who, in the opinion of his holiness, were enemies to the tranquillity of the state, and hostile to the spiritual interests of souls. This bull was followed by an edict dated 14th January 1739, in which the servitude of the galleys, the tortures of the rack, and a fine of 1000 crowns in gold, were threatened to persons of every description who breathed the infectious air of a masonic assembly. A few weeks afterwards a decree was issued by his holiness condemning a French book, entitled An Apology for the Society of Free Masons, and ordering it to be burnt by the ministers of justice, in one of the best frequented streets of Rome.

And in Holland. 82. In consequence of these enactments at Rome, the catholic clergymen in Holland attempted in 1740 to enforce obedience to the decrees of their superiors. In examining the religious qualifications of those who required a certificate to receive the holy sacrament, the priests took occasion to refuse the certificate to such as were free masons, and expelled them for ever from the communion table. Having exerted their authority in the expulsion of several respectable characters, the attention of the public was roused by such arbitrary proceedings, and after the publication of several pamphlets by the adherents of both parties, the states general interfered, and prohibited the exercise of that spiritual power, which, instead of suppressing immorality, had excited divisions among their fellow subjects.

Institution of the association of the masons. 83. In order to preserve the order from that ruin to which it seemed fast approaching, several free masons of distinction in Germany who were friendly to the church of Rome, instituted a new association formed on the same principles, and proposing to itself the same object as free masonry. The members were denominated *mopses*, from the German word *mops*, signifying a young mastiff, which was deemed a proper emblem of the mutual fidelity and attachment of the brethren. But that

they might preserve the mysteries of free masonry from such of the members as were not masons, they rejected from their ritual all the masonic signs and ceremonies; and in order to escape the vengeance of the church of Rome, they converted the oath of secrecy into a simple promise, and admitted women into their new association. The mopses were patronised by the most illustrious characters in Germany, and several princes of the empire were grand masters of the order. The hostility of the Roman see to the protestants in Germany induced the mopses to exclude them from their fraternity; but this was merely a pretence to deceive his holiness, for they afterwards admitted men of every religion and of every country.

84. As the authority of the pope did not extend to Switzerland, free masonry flourished in that republic till 1741, when the council of Berne issued an edict prohibiting under the severest penalties the assemblies of free masons. No reason was assigned for this conduct, and no charges advanced against the order. The council of Berne are terrified for secret associations, and therefore they must oppress and persecute them. Not satisfied with abolishing the lodges in the republic, they decreed that every free mason must accuse himself before the magistrates of the district, that he must renounce his obligations to secrecy, and swear in the presence of the Almighty, to trample upon those engagements, which before the same Being they had sworn to reverse. Such an instance of tyranny over the minds and consciences of men, is a remarkable fact in the history of a republic where the reformed religion had been practised from its infancy, and where free masons had always conducted themselves with exemplary propriety.

85. The persecutions which free masonry encountered were hitherto confined to the continent. The tide of religious frenzy, however, now rolled to the shores of Britain. In the year 1745, the Associate Synod attempted to disturb the peace of the fraternity; and had they been possessed of half the power of the church of Rome or the council of Berne, their proceedings, prompted by equal fanaticism, would have been marked with the same severity; but, fortunately for the order, their power extended only to the spiritual concerns of those delinquents who were of the same sect with themselves. In the beginning of the year 1745, an overture was laid before the synod of Stirling, stating that many improper things were performed at the initiation of masons, and requesting that the synod would consider whether or not the members of that order were entitled to partake in the ordinances of religion. The synod remitted this overture to all the kirk-sessions under their inspection, allowing them to act as they thought proper. In 1755, however, they appointed all their kirk-sessions to examine every person who was suspected to be a free mason, and to demand an explicit answer to any question which they might ask, concerning the administration of the mason oath. In the course of these examinations, the kirk session discovered, (for they seem hitherto to have been ignorant of it) that men who were not architects were admitted into the order. On this account the synod, in the year 1757, thought it necessary to adopt stricter measures. They drew up a list of questions, which they appointed every kirk-session to put to those under their charge. These questions related



Masonry. lated to what they thought were the ceremonies of free masonry; and those who refused to answer them were debarred from religious ordinances. The object of these proceedings was not, certainly, as is pretended, to make the abettors of the Associate Synod more holy and upright, by detaching them from the fraternity. This could have been effected without that species of examination which they authorised. The church of Rome were contented with dispersing the fraternity, and receiving its repentant members into their communion. The council of Berne went no farther than abolishing the society, and compelling the brethren to renounce their engagements, lest these should be inconsistent with the duties of citizens. But a synod of Scottish dissenters, who cannot imitate in these points the church of Rome and the council of Berne, must compel the free masons of their congregation to give them an account of those mysteries and ceremonies, which they durst not obtain by regular initiation.

Free Masonry flourishes on the continent.

86. Notwithstanding these persecutions, free masonry flourished, and was in the highest estimation in Great Britain, France, Germany, and several other kingdoms of Europe. In 1743, it was exported from Scotland to Denmark; and the lodge which was then instituted is now the grand lodge of that kingdom. The same prosperity has attended the first lodge in Sweden, which was erected at Stockholm in 1754, under a patent from Scotland. In 1765, a splendid apartment was erected at Marseilles, for the accommodation of the brethren. It was adorned with the finest paintings, representing the most interesting scenes that occur in the history of the Old and New Testament, and calculated to remind the spectator of his various duties as a man, a subject, and a Christian. The representation of Joseph and his brethren, of the Samaritan and Jew, of Lot and the Angels, must have reminded every brother of the beauty of charity and forgiveness, which are the first principles of masonry, as they are the first duties of man. The picture of Peter and the Apostles paying tribute to Cæsar, must have recalled to every individual his obligations, as a citizen, to revere and support the constituted authorities. And the representation of Job in his misfortunes, lifting up his hands to heaven, must have forced upon the minds of the most inconsiderate, this important reflection—that fortitude and resignation to the will of God are the duties of all in distress, and that the divine blessing will ultimately attend those who bear, without murmuring, the chastisements of their father, and preserve, amidst the severest trials, their patience and virtue unimpaired (x). These observations, apparently trifling, are important in one respect, as they show that the French lodges had not at that time fostered in their bosom the votaries of scepticism and disloyalty. The other lodges in France were at this time numerous and magnificent. The grand lodge contained about twenty offices, which were all filled by noblemen of the highest rank. They had provincial grand masters similar to those of Scotland, and the insignia and jewels of all those office-bearers, were as rich and splendid as the lodges where they assembled.

87. In the year 1767, a lodge, under an English

Masonry. constitution was established at Berlin, under the appellation of *Le Royale York*, in honour of the duke of York, who was initiated into the fraternity by that lodge while he was travelling on the continent. In 1768, the free masons of Germany were authorised to hold their assemblies, by a charter granted by the king of Prussia, the elector of Saxony, and the queen of Hungary and Bohemia, and afterwards by the emperor of Germany himself. By another charter from England, in 1769, a lodge was erected at Brunswick, which, a short time after, received a provincial deputation from England, for superintending the lodges of Lower Saxony. In the year 1773 a compact was entered into between the grand lodge of England, under Lord Petre, and the grand lodge at Berlin, under the prince of Hesse Darmstadt, which had a few years before been duly erected into a grand lodge, at a meeting of the masters and wardens of twelve regular lodges. In this compact it was stipulated, that the grand lodge of Berlin should be acknowledged as the grand lodge of the whole empire of Germany, including the dominions of his Prussian majesty; that it should exercise no masonic power out of the empire of Germany, or within the district under the authority of the grand lodge of Brunswick; that the electorate of Hanover should be free to both the grand lodges in Germany; and that the contracting parties should unite their efforts to counteract all innovations in masonry, and particularly the proceedings of a set of masons in Berlin, who, under the denomination of *Stricte Observantz*, had annihilated their former constitutions, erected themselves into a grand lodge, and sanctioned very improper innovations upon the principles and ceremonies of the fraternity. This compact was highly approved of by the king of Prussia, who immediately erected the grand lodge of Berlin into a corporate body. In 1777, the king of Prussia was protector of all the masons in Germany. Ferdinand, duke of Brunswick and Lunenburgh, was grand master of all the united lodges in Germany; and the other offices were filled by the most able and illustrious princes of the empire. Under the auspices of such distinguished personages, and the jurisdiction of the grand lodges of Berlin and Brunswick, free masonry has flourished to the present day in that extensive empire.

88. In Germany, Denmark, and Sweden, charity-schools were erected by the lodges, for educating the children of free masons, whose poverty debarred them from this advantage. In that which was formed at Brunswick, they were instructed even in classical learning, and various branches of the mathematics; and were regularly examined by the duke of Brunswick, who rewarded the most deserving with suitable donations. At Eisenach several seminaries of this kind were established. The teachers were endowed with fixed salaries; and, in a short time after their institution, they had sent into the world 700 children, instructed in the principles of science, and the doctrines of Christianity. In 1771, an establishment of a similar kind was formed at Cassel, in which the children were maintained and educated till they could provide for themselves.

(x) For a farther account of this building, see Smith's Use and Abuse of Free Masonry, p. 165.



**Masonry.** selves. In 1773 the united lodges of Dresden, Leipzig, and Gorlitz, erected at Frederickstadt a seminary of learning for children of every denomination in the electorate of Saxony. The masonic subscriptions were so numerous that the funds of the institution were sufficient for its maintenance; and in the space of five years, above 1100 children received a liberal education. In the same year, an extensive workhouse was erected at Prague in which the children were not only initiated into the first principles of learning, but into those branches of the useful and fine arts which might qualify them for commercial and agricultural situations. It deserves to be remarked, that the founders of these institutions, amid their anxiety for the public prosperity, never neglected the spiritual interests of the children. They saw that early piety is the foundation of all that is useful and honourable in life; and that without this, speculative knowledge and practical skill are of little avail.—How inconsistent are such facts with those fabulous accounts of the German lodges, which have been published in England by a few party-men.

**Free masonry persecuted in Portugal.** 89. While these things were going on in Germany, the brethren in Portugal were exposed to the persecution of its bigotted rulers. Major François d'Alincourt, a Frenchman, and Don Oyres de Ornellas Pracao, a Portuguese nobleman, were in 1766 imprisoned by the governor of Madeira for their attachment to their order. Being afterwards carried to Lisbon, they were confined for fourteen months, till they were released by the generous intercession of the brethren in that city. In the following year several free masons were confined at Naples, but soon liberated by the intercession of foreign princes, and the eloquence of an Italian advocate.

90. Notwithstanding the persecutions which the fraternity experienced in Holland, free masonry was flourishing in that republic in 1779. At that time a compact was entered into between the grand lodge of Holland, held at the Hague, and that of England. In this compact it was stipulated that the grand lodge of Holland should be permitted to erect lodges within her territories, both at home and abroad, and to appoint provincial grand masters over each district. In consequence of this accession of power to the grand lodge of Holland, free masonry flourished, under its auspices, in the Dutch settlements in India, Africa, and South America.

**Origin and history of the illuminati.** 91. Let us now direct our attention to a new secret association which about this time, arose in Germany, and which was imagined to have taken its rise from free masonry, and to have planned a diabolical conspiracy against every religious and political establishment in Europe. In 1775 the order of the illuminati was founded by Doctor Adam Weishaupt, professor of canon law in the university of Ingolstadt. In this association speculative opinions were inculcated, which were certainly inconsistent with the principles of sound religion and social order. But that illuminism originated from free masonry; that it brought about the French revolution, or even planned any dangerous con-

spiracy, are circumstances for which the shadow of a proof has not yet been adduced. Dr Robison indeed expressly affirms, that illuminism “took its rise among the free masons, but was totally different from free masonry;” and by a deceitful anachronism, he represents Weishaupt as an active member in the German lodges, before he acquaints his readers that he was the founder of the illuminati, for no other reason than to make them believe that Weishaupt was a free mason before he planned his new association (F). Now the case was very different indeed. Barruel himself asserts, “that it is a fact demonstrated beyond a doubt, that Weishaupt became a mason in 1777 only; and that two years before this, when he established illuminism, he was totally unacquainted with the mysteries of free masonry (G).” Here then is an important fact which strikes at the root of all Dr Robison’s reasoning against free masonry. Barruel maintains, that Weishaupt was not a mason till two years after the organization of his new institution; and Dr Robison allows, that illuminism was totally different from free masonry. The two institutions, therefore, were totally unconnected; for the members of the one were never admitted into the lodges of the other, without being regularly initiated into the mysteries of both. Upon these simple facts we would arrest the attention of every reader, and those in particular who have been swindled out of their senses, by the united exertions of a priest and a philosopher.

92. After Weishaupt had organized his institution, he exerted every nerve to disseminate its principles. For this purpose he became a free mason in 1777; and by means of emissaries, he attempted to circulate his opinions among the French and German lodges. In these attempts indeed, he was sometimes successful. But it should be recollected by those who, on this account, calumniate free masonry, that the same objection may be urged against Christianity, because impostors have sometimes gained proselytes, and perverted the wavering minds of the multitude. These doctrines, however, were not merely circulated by Weishaupt in a few of the lodges, and taught at the assemblies of the illuminati. They were published to the world in the most fascinating form, by the French encyclopedists; and were inculcated in all the eloquence, with which some of the most celebrated philosophers on the continent could adorn them. It can only be said of Weishaupt, therefore, that he was not just such a determined infidel as Voltaire and his associates.—Such is a short, and it is hoped, an impartial view of the origin and progress of the illuminati. It may be now proper to attend to the causes from which this association arose, and the advantages and disadvantages which it may have engendered.

93. About the middle of the eighteenth century the literati on the continent were divided into two great parties. The one may be considered as ex-jesuits, or adherents to the catholic superstition, who were promoters of political and religious despotism, and inculcated the doctrines of non-resistance and passive obedience. The other party was composed of men who were friends

Causes from which illuminism rose.

(F) Proofs of a Conspiracy, Introduction, p. 15. and p. 101.

(G) Memoirs of Jacobinism, Part iii. Preliminary Observations, p. 15. and p. 12.



**Masonry.** to the reformed religion, enemies of superstition and fanaticism, and supporters of the absurd doctrine of the infinite perfectibility of the human mind. They were dissatisfied with that slavery which was imposed by the despotism of the continental rulers, and the superstition of the church of Rome; and many of them entertained opinions adverse to the Christian religion, and to every existing form of government. Between these two parties there was a perpetual struggle for power. The ex-jesuits accused their opponents as heretics and promoters of jacobinism and infidelity; while the others were constantly exposing the intrigues of priests, and the tyranny of despots. To this latter class belonged Weishaupt and his associates, who instituted the order of the illuminati for no other purpose than to oppose those corrupted priests, who would have degraded them as Christians, and those tyrannical despots who have enslaved them as citizens. The collision of these parties was certainly productive of the greatest advantages. While the Jesuits restrained the inclination of one part of the community, to overrate the dignity of the human mind, and anticipate ideal visions of religious and political perfection; the illuminati counteracted those gloomy opinions which debase the dignity of our nature, which check the energies of the mind, and impose the most galling yoke of religious and political servitude.

94. After the French revolution, which, as Mounier has well shown, arose from other causes than those to which Barruel and Robison ascribe it, the plans of these parties were not carried on in Germany so systematically as before; and notwithstanding the fabrications with which Barruel has calumniated the lodges in that country, free masonry prevails to his day, respected by the most virtuous and scientific members of the community, and patronized by the most distinguished princes of the empire.

Respectability of free masons in Germany.

95. In Germany the qualifications for a free mason are great and numerous. No person is initiated into the order without the consent of every member of the lodge; and it frequently happens, that a German even is excluded by a single dissenting voice. On this account the lodges of that country are filled with persons of the first rank and respectability; and every thing is conducted with the greatest decorum and solemnity. As masonry is there held in the highest estimation, an Englishman will obtain an easier introduction to the chief nobility and literati of Germany in a mason lodge than in any other place; and will never repent of having been initiated into the order in his native country (H).

96. After the publication of the works of Barruel and Robison, the progress of free masonry in Britain was retarded by an act of parliament in 1799 for the suppression of seditious societies, by which the fraternity were virtually prohibited from erecting new lodges in the kingdom. But this act was not prompted by the calumnies of these writers. It became necessary from the political condition of the kingdom; and the exceptions which it contained in favour of free masons, com-

pletely prove that government never credited the reports of these alarmists, but placed the most implicit confidence in the loyalty and prudence of British masons. The private characters, indeed, as well as the public situations of those individuals who are now grand masters of the order, are a sufficient pledge to the legislature and the uninitiated public, that free masonry will preserve in these kingdoms its ancient purity and simplicity, and that it will ever continue to be the foe of despotism and oppression, the enemy of superstition and fanaticism, the promoter of civilization and good order, and the friend of true benevolence and unaffected piety.

**MASORA**, a term in the Jewish theology, signifying a work on the Bible, performed by several learned rabbins, to secure it from any alterations which might otherwise happen.

Their work regards merely the letter of the Hebrew text, in which they have, first, fixed the true reading by vowels and accents: they have, secondly, numbered not only the chapters and sections, but the verses, words, and letters of the text: and they find in the Pentateuch 5245 verses, and in the whole Bible 23,206. The masora is called, by the Jews, the *hedge or fence of the law*, because this enumeration of the verses, &c. is a means of preserving it from being corrupted and altered. They have, thirdly, marked whatever irregularities occur in any of the letters of the Hebrew text; such as the different size of the letters, their various positions and inversions, &c. and they have been fruitful in finding out reasons for these irregularities and mysteries in them. They are, fourthly, supposed to be the authors of the *Keji* and *Chetibh*, or the marginal corrections of the text in our Hebrew Bibles.

The text of the sacred books, it is to be observed, was originally written without any breaks or divisions into chapters or verses, or even into words; so that a whole book, in the ancient manner, was but one continued word; of this kind we have still several ancient manuscripts, both Greek and Latin. In regard, therefore, the sacred writings had undergone an infinite number of alterations, whence various readings had arisen, and the original was become much mangled and disguised, the Jews had recourse to a canon, which they judged infallible, to fix and ascertain the reading of the Hebrew text; and this rule they call *masora*, "tradition," from *מסרה*, *tradidit*, as if this critique were nothing but a tradition which they had received from their forefathers. Accordingly they say, that when God gave the law to Moses at Mount Sinai, he taught him, first, the true reading of it; and, secondly, its true interpretation; and that both these were handed down by oral tradition, from generation to generation, till at length they were committed to writing. The former of these, viz. the true reading, is the subject of the masora; the latter, or true interpretation, that of the *mishna* and *gemara*.

According to Elias Levita, they were the Jews of a famous school at Tiberias, about 500 years after Christ, who composed, or at least began, the masora; whence

(H) Dr Render's Tour through Germany, Introduction to vol. i. p. 30 and 33. Dr Render maintains, that free masonry has greatly improved the manners and disposition of the Germans. See vol. ii. p. 200 *Note*.



Masque.

Masque.

whence they are called *masorites*, and *masoretic doctōrs*. Aben Ezra makes them the authors of the points and accents in the Hebrew text, as we now find it; and which serve for vowels.

The age of the masorites has been much disputed. Archbishop Uther places them before Jerome; Capel, at the end of the fifth century; Father Morin, in the tenth century. Bafnage says, that they were not a society, but a succession of men; and that the masora is the work of many grammarians, who, without associating and communicating their notions, composed this collection of criticisms on the Hebrew text. It is urged that there were masorites from the time of Ezra and the men of the great synagogue, to about the year of Christ 1030: and that Ben Asher and Ben Naphtali, who were the best of the profession, and who, according to Bafnage, were the inventors of the masora, flourished at this time. Each of these published a copy of the whole Hebrew text, as correct, says Dr Prideaux, as they could make it. The eastern Jews have followed that of Ben Naphtali, and the western that of Ben Asher; and all that has been done since is to copy after them, without making any more corrections or masoretic criticisms.

The Arabs have done the same thing by their Koran that the masorites have done by the Bible; nor do the Jews deny their having borrowed this expedient from the Arabs, who first put it in practice in the seventh century.

There is a great and little Masora printed at Venice and at Basil, with the Hebrew text in a different character. Bxutorf has written a masoretic commentary, which he calls *Tiberius*.

MASQUE, or MASK, a cover for the face, contrived with apertures for the eyes and mouth; originally worn chiefly by women of condition, either to preserve their complexion from the weather, or out of modesty to prevent their being known. Poppæa, wife of Nero, is said to be the first inventor of the *masque*; which she did to guard her complexion from the sun and weather, as being the most delicate woman, with regard to her person, that has been known.

Theatrical masques were in common use both among the Greeks and Romans: Suidas and Athenæus ascribe the invention of them to the poet Chœrilus, a contemporary of Thespis: Horace attributes them to Æschylus; but Aristotle informs us, that the real inventor, and consequently the time of their first introduction and use, were unknown. Brantome observes, that the common use of modern masques was not introduced till towards the end of the sixteenth century.

MASQUE is also used to signify any thing used to cover the face, and prevent a person's being known. The penitents of Lyons and Avignon hide their faces with large white veils, which serve them for masques.

The *Iron MASQUE* (*Masque de Fer*), or *Man with the Iron Masque*, a remarkable personage so denominated, who existed as a state prisoner in France during the latter part of the 17th century. As the circumstances of this person form a historical problem which has occasioned much inquiry, and given rise to many conjectures, as well as of late, in consequence of the destruction of the Bastile, excited in a particular manner the curiosity of the public, it shall be endeavoured to condense in this article the substance of every thing

material that has been published on the subject. We shall first relate such particulars concerning this extraordinary prisoner as appear to be well authenticated; and shall afterwards mention the different opinions and conjectures that have been entertained with regard to his real quality, and the causes of his confinement.

I. The authenticated particulars concerning the *Iron Masque* are as follows: A few months after the death of Cardinal Mazarine, there arrived at the isle of Sainte Marguerite, in the sea of Provence, a young prisoner whose appearance was peculiarly attracting: his person was above the middle size, and elegantly formed; his mien and deportment were noble, and his manners graceful; and even the sound of his voice, it is said, had in it something uncommonly interesting. On the road he constantly wore a masque made with iron springs, to enable him to eat without taking it off. It was at first believed that this masque was made entirely with iron; whence he acquired the name of "the Man with the iron mask." His attendants had received orders to despatch him if he attempted to take off his masque or discover himself. He had been first confined at Pignerol, under the care of the governor M. de St Mars; and upon being sent from thence to Sainte Marguerite, he was accompanied thither by the same person, who continued to have the charge of him. He was always treated with the most marked respect: he was served constantly in plate; and the governor himself placed his dishes on the table, retiring immediately after and locking the door behind him. He *tu-to'you* (thee'd and thou'd) the governor; who, on the other hand, behaved to him in the most respectful manner, and never wore his hat before him, nor sat down in his presence unless he was desired. The marquis de Louvois, who went to see him at St Marguerite, spoke to him standing, and with that kind of attention which denotes high respect.

During his residence here, he attempted twice, in an indirect manner, to make himself known. One day he wrote something with his knife on a plate, and threw it out of his window towards a boat that was drawn on shore near the foot of the tower. A fisherman picked it up and carried it to the governor. M. de St Mars was alarmed at the sight; and asked the man with great anxiety, whether he could read, and whether any one else had seen the plate? The man answered, that he could not read, that he had but just found the plate, and that no one else had seen it. He was, however, confined till the governor was well assured of the truth of his assertions.—Another attempt to discover himself proved equally unsuccessful. A young man who lived in the isle, one day perceived something floating under the prisoner's window; and on picking it up, he discovered it to be a very fine shirt written all over. He carried it immediately to the governor; who, having looked at some parts of the writing, asked the lad, with some appearance of anxiety, if he had not had the curiosity to read it? He protested repeatedly that he had not; but two days afterwards he was found dead in his bed.

The *Masque de Fer* remained in this isle till the year 1698, when M. St Mars being promoted to the government of the Bastile, conducted his prisoner to that fortress. In his way thither, he stopt with him at his estate near Palteau. The Masque arrived there in a litter,



*Masque.* litter, surrounded by a numerous guard on horseback. M. de St Mars ate at the same table with him all the time they resided at Palteau; but the latter was always placed with his back towards the windows; and the peasants, who came to pay their compliments to their master, and whom curiosity kept constantly on the watch, observed that M. de St Mars always sat opposite to him with two pistols by the side of his plate. They were waited on by one servant only, who brought in and carried out the dishes, always carefully shutting the door both in going out and returning. The prisoner was always masked, even when he passed through the court; but the people saw his teeth and lips, and also observed that his hair was gray.—The governor slept in the same room with him, in a second bed that was placed in it on that occasion. In the course of their journey, the Iron Mask was, one day heard to ask his keeper whether the king had any design on his life? “No, prince,” he replied; “provided that you quietly allow yourself to be conducted, your life is perfectly secure.”

The stranger was accommodated as well as it was possible to be in the Bastille. An apartment had been prepared for him by order of the governor before his arrival, fitted up in the most convenient style; and every thing he expressed a desire for was instantly procured him. His table was the best that could be provided; and he was ordered to be supplied with as rich clothes as he desired: but his chief taste in this last particular was for lace, and for linen remarkably fine. It appears that he was allowed the use of such books as he desired, and that he spent much of his time in reading. He also amused himself with playing upon the guitar. He had the liberty of going to masques; but was then strictly forbid to speak or uncover his face: orders were even given to the soldiers to fire upon him if he attempted either; and their pieces were always pointed towards him as he passed through the court. When he had occasion to see a surgeon or a physician, he was obliged, under pain of death, constantly to wear his mask. An old physician of the Bastille, who had often attended him when he was indisposed, said, that he never saw his face, though he had frequently examined his tongue, and different parts of his body; that there was something uncommonly interesting in the sound of his voice; and that he never complained of his confinement, nor let fall from him any hint by which it might be guessed who he was. It is said that he often passed the night in walking up and down his room.

This unfortunate prince died on the 19th of November 1703, after a short illness; and was interred next day in the burying place of the parish of St Paul. The expence of his funeral amounted only to forty livres. The name given him was *Marchiali*: and even his age, as well as his real name, it seemed of importance to conceal; for in the register made of his funeral, it was mentioned that he was about forty years old; though he had told his apothecary, some time before his death, that he thought he must be sixty.—It is a well-known fact, that immediately after the prisoner's death, his apparel, linen, clothes, mattresses, and in short every thing that had been used by him, were burnt; that the walls of his room were scraped, the floor taken up, evidently from the apprehension

that he might have found means of writing any thing that would have discovered who he was. Nay, such was the fear of his having left a letter or any mark which might lead to a discovery, that his plate was melted down; the glass was taken out of the window of his room and pounded to dust; the window-frame and doors burnt; and the ceiling of the room, and the plaster of the inside of the chimney, taken down. Several persons have affirmed, that the body was buried without a head; and Monsieur de Saint Foix informs us\*, that “a gentleman having bribed the sexton, had the body taken up in the night, and found a stone instead of the head.” *Masque.*

\* In his *Essais Historiques.*

The result of these extraordinary accounts is, that the Iron Masque was not only a person of high birth, but must have been of great consequence; and that his being concealed was of the utmost importance to the king and ministry. We come now, therefore, to notice,

II. The opinions and conjectures that have been formed concerning the real name and condition of this remarkable personage. Some have pretended that he was the duke of Beaufort; others, that he was the count de Vermandois, natural son to Louis XIV. by the duchess de la Valliere. Some maintain him to have been the duke of Monmouth, natural son of Charles II. of England by Lucy Walters; and others say, that he was Gerolami Magni, minister to the duke of Modena.

Besides these conjectures, none of which possess sufficient probability to entitle them to consideration, a fifth has been advanced; namely, That the Iron Masque was a son of Anne of Austria, queen to Louis XIII. and consequently that he was a brother of Louis XIV.; but whether a bastard brother, a brother-german, or a half-brother, is a question that has given rise to three several opinions, which we shall state in the order of time in which the respective transactions to which they allude happened.

1. The first opinion is, that the queen proved with child at a time when it was evident it could not have been by her husband, who, for some months before, had never been with her in private. The supposed father of this child is said by some to have been the duke of Buckingham, who came to France in May 1625, to conduct the Princess Henrietta, wife of Charles I. to England. The private letters and memoirs of those times speak very suspiciously of the queen and Buckingham: his behaviour at Amiens, whither the queen and queen mother accompanied the princess in her way to Boulogne, occasioned much whispering: notwithstanding the pains that have been taken by La Porte in his *Memoires* to excuse his mistress, it appears that the king, on this occasion, was extremely offended at her, and that it required all the influence and address of the queen mother to effect a reconciliation. It is said, that this child was privately brought up in the country; that when Mazarine became a favourite, he was intrusted with the care of him; and that Louis XIV. having discovered the secret on the death of the cardinal, thought it necessary to confine him in the manner that has been related.

But it may be observed that this secret could scarcely have escaped the vigilance of the cardinal de Basville, Richlieu; *Hist. of the Bastille*, 6. p. 343.



Masque.

Richlieu; and it is not improbable, that a minister so little scrupulous, if inclined to save the honour of a queen, would have removed a child, who, if he lived, might have been made use of to disturb the tranquillity of the kingdom. After this supposed birth, the queen had frequent quarrels with the king, and what was more dangerous, with the cardinal; who even used every means in his power to inquire into her most private transactions. It was on a memorable occasion of this kind, that her servant La Porte was thrown into the Bastille; and it can scarcely be imagined she would have had the firmness she then displayed, while conscious of so much guilt, and under the risk of having it discovered. The prisoner with the masque appears, by several accounts, to have been a youth of a handsome figure in the year 1661; and in 1703, when he died, to have been above sixty; but had he been a son of Buckingham, he would have been about thirty-six in 1661, when he could not be said to have been a youth; and in November 1703, about seventy-eight.

2. The second opinion is, that he was the twin brother of Louis XIV. born some hours after him. This first appeared in a short anonymous work published without date, and without the name of place or printer. It is therein said, "Louis XIV. was born at St Germain en Laye, on the 5th of September 1638, about noon; and the illustrious prisoner, known by the appellation of the *Iron Masque*, was born the same day, while Louis XIII. was at supper. The king and the cardinal, fearing that the pretensions of a twin brother might one day be employed to renew those civil wars with which France had been so often afflicted, cautiously concealed his birth, and sent him away to be brought up privately. Having but an imperfect knowledge of the circumstances that followed, I shall say nothing more, for fear of committing errors; but I firmly believe the fact I have mentioned; and time will probably prove to my reader, that I have ground for what I have advanced."

This opinion has been more noticed since the publication of a work called *Memoires du Marechal Duc de Richlieu*, written by the abbé Soulavie; concerning which it may be proper to premise, that the present duke of Richlieu, son of the marechal, disavows this work, while the abbé Soulavie, who had been employed by the marechal, insists on the authenticity of his papers (A). He informs us, that the duke of Richlieu was the lover of Mademoiselle de Valois, daughter of the regent duke of Orleans, and afterwards duchess of Modena, who in return was passionately fond of him; that the regent had something more than a paternal affection for his daughter; and that, though she held his sentiments in abhorrence, the duke of Richlieu made use of her influence with her father to discover the secret of the prisoner with the masque; that the regent, who had always observed the most profound silence on this subject, was at last persuaded to intrust her with a manuscript, which she immediately sent to her lover, who took a copy of it. This manuscript is

supposed to have been written by a gentleman on his deathbed, who had been the governor of the prisoner. The following is an extract of it, from what the abbé Soulavie has told us.

"The birth of the prisoner happened in the evening of the 5th of September 1638, in presence of the chancellor, the bishop of Meaux, the author of the manuscript, a midwife named Peronéte, and a sieur Honorat. This circumstance greatly disturbed the king's mind; he observed, that the Salique law had made no provision for such a case; and that it was even the opinion of some, that the last born was the first conceived, and therefore had a prior right to the other. By the advice of Cardinal de Richlieu, it was therefore resolved to conceal his birth, but to preserve his life, in case by the death of his brother it should be necessary to avow him. A declaration was drawn up, and signed and sworn to by all present, in which every circumstance was mentioned, and several marks on his body described. This document being sealed by the chancellor with the royal seal, was delivered to the king; and all were commanded and took an oath never to speak on the subject, not even in private and among themselves. The child was delivered to the care of Madame Peronéte the midwife, to be under the direction of Cardinal de Richlieu, at whose death the charge devolved to Cardinal de Mazarine. Mazarine appointed the author of the manuscript his governor, and intrusted to him the care of his education. But as the prisoner was extremely attached to Madame Peronéte, and the equally so to him, she remained with him till her death. His governor carried him to his house in Burgundy, where he paid the greatest attention to his education.

"As the prisoner grew up, he became impatient to discover his birth, and often importuned his governor on that subject. His curiosity had been roused by observing that messengers from the court frequently arrived at the house: and a box, containing letters from the queen and the cardinal, having one day been inadvertently left out, he opened it, and saw enough to guess at the secret. From that time he became thoughtful and melancholy; which (says the author) I could not then account for. He shortly after asked me to get him a portrait of the late and present king; but I put him off by saying that I could not procure any that were good. He then desired me to let him go to Dijon; which I have known since was with an intention of seeing a portrait of the king there, and of going secretly to St John de Lus, where the court then was on occasion of the marriage with the infanta. He was beautiful; and love helped him to accomplish his wishes. He had captivated the affections of a young housekeeper, who procured him a portrait of the king. It might have served for either of the brothers; and the discovery put him into so violent a passion, that he immediately came to me with the portrait in his hand, saying, *Voila mon frere, et voila qui je suis*, showing me at the same time a letter of the cardinal de Mazarine that he had taken out of the box.' Upon this discovery his governor immediately sent an express to court

Masque.

(A) A letter from the duke of Richlieu, and answer from the abbé Soulavie, appeared in the *Journal de Paris*.



*Masque.* court to communicate what had happened, and to desire new instructions; the consequence of which was, that the governor and the young prince under his care were arrested and confined."

This memoir, real or fictitious, concludes with saying, "I have suffered with him in our common prison: I am now summoned to appear before my judge on high; and for the peace of my soul I cannot but make this declaration, which may point out to him the means of freeing himself from his present ignominious situation, in case the king his brother should die without children. Can an extorted oath compel me to observe secrecy on a thing so incredible, but which ought to be left on record to posterity."

3. The third opinion is, that he was a son of the queen by the cardinal de Mazarine, born about a year after the death of her husband Louis XIII.; that he was brought up secretly; and that soon after the death of the cardinal, which happened on the 9th of March 1661, he was sent to Pignerol. To this account Father Griffet \* objects, "that it was needless to masquerade a face that was unknown; and therefore that this opinion does not merit discussion." But in answer it has been observed, That the prisoner might strongly resemble Louis XIV. which would be a sufficient reason to have him masked. This opinion is supposed to have been that entertained by Voltaire, who asserts his thorough knowledge of the secret, though he declined being altogether explicit. The abbé Soulavie, author of *Memoirs of the Marechal de Richlieu*, speaking on this subject, says, "That he once observed to the marechal, that he certainly had the means of being informed who the prisoner was; that it even seemed that he had told Voltaire, who durst not venture to publish the secret; and that he at last asked him, whether he was not the elder brother of Louis XIV. born without the knowledge of Louis XIII.? That the marechal seemed embarrassed, but afterwards said, that he was neither the bastard brother of Louis XIV. nor the duke of Monmouth, nor the count of Vermandois, nor the duke of Beaufort, as different authors had advanced; that their conjectures were nothing but reveries: but added, that they however had related many circumstances that were true; that in fact the order was given to put the prisoner to death if he discovered himself; and that he finished the conversation by saying, All I can tell you on the subject is, that the prisoner was not of such consequence when he died at the beginning of the present century as he had been at the beginning of the reign of Louis XIV. and that he was shut up for important reasons of state." The abbé Soulavie tells us, that he wrote down what had been said, and gave it to the marechal to read, who corrected some expressions. The abbé having proposed some further questions, he answered. "Read what Voltaire published last on the subject of the prisoner with the masque, especially at the end, and reflect on it."—The passage of Voltaire alluded to is as follows:

"The man with the masque (says he), is an enigma of which every one would guess the meaning. Some have said that it was the duke of Beaufort; but the duke of Beaufort was killed by the Turks in the defence of Candy in 1669, and the prisoner with the masque was at Pignerol in 1661. Besides, how could

*Masque.* the duke of Beaufort have been arrested in the midst of his army, and brought to France, without any one knowing it? and why confine him? and why that masque?—Others have dreamed that he was the count de Vermandois, natural son of Louis XIV. who died publicly at the army in 1683 of the smallpox, and was buried at the little town of Aire and not Arras; in which Father Griffet was mistaken, but in which to be sure there is no great harm. Others have imagined, that it was the duke of Monmouth, who was beheaded publicly in London in the year 1685. But for this he must have risen again from the dead, and he must have changed the order of time, and placed the year 1662 in the room of the year 1685. King James, who never forgave any one, and who on that account deserved all that happened to him, must have pardoned the duke of Monmouth, and got another to die in his stead, who perfectly resembled him. This Sofia must first have been found, and then he must have had the goodness to let his head be cut off in public, to save the duke of Monmouth. It was necessary that all England should be mistaken; and that King James should beg of Louis XIV. to be so obliging as to be his gaoler; that Louis XIV. after having shown this trifling piece of civility to King James should not have been wanting in the same attention to his friend King William and to Queen Anne (with both of whom he was engaged in war), and to please them, retained the dignity of gaoler, with which James had honoured him.

"All these illusions being dissipated, it then remains to know who this prisoner was, and at what age he died. It is clear, that if he was not permitted to cross the court of the Bastile, or to speak to his physician, except covered with a masque, it must have been from the apprehension that his features and countenance might have discovered some resemblance. He could show his tongue, but not his face. He said himself to the apothecary of the Bastile, a few days before his death, that he believed he was about 60. Mr Marfoban, who was son-in-law to this apothecary, and surgeon to the marechal de Richlieu, and afterwards to the regent duke of Orleans, told me this frequently. Why give him an *ITALIAN* name?—They always called him *Marchiali*. He who writes this article perhaps knows more than Father Griffet, but he will say nothing farther."

This opinion has been lately resumed, illustrated, and enforced, by M. de Saint Mihiel, in a work entitled *Le Veritable Homme, &c.* "The real Man with the Iron Masque." The author, in support of his idea, attempts to prove that Anne of Austria and Cardinal Mazarine were married. This, says he, the duchess of Orleans assures us of in three of her letters. In the first, dated Sept. 13. 1713, she expresses herself as follows: "Old Beauvais, who was first lady of the bedchamber to the queen dowager, was acquainted with the secret of the ridiculous marriage; this rendered it necessary for the queen to do every thing that her confidant wished; and this circumstance has given risen in this country to an extension of the rights of first ladies of the bedchamber." In the second of these letters, dated Nov. 2. 1717, she says, "The queen-mother, widow of Louis XIII. did worse than love Cardinal Mazarine; she married him, for he was not

\* *Traité de la vérité de l'Histoire*, p. 318 n.



*Masque.* a priest: he was not even in orders; and who could have hindered her? He was most horribly tired of the good queen-mother, and lived on very bad terms with her, which is the reward that people deserve for entering into such marriages." In her third letter, dated July 2. 1719, speaking of the queen, the duchess says, "She was perfectly easy respecting Cardinal Mazarine; he was not a priest, and therefore nothing could prevent their being married. The secret passage through which the cardinal went every evening to the queen's apartment is still to be seen at the Palais Royal." Among other proofs besides the above, which M. de St Mihiel brings to substantiate this marriage, he observes, that Mazarine held all councils of state in his apartment whilst he was shaving or dressing; that he never permitted any person to sit down in his presence, not even the chancellor nor marshal de Villeroi; and that while they were deliberating with him on state affairs, he would be often playing with his monkey or linnet. What man (continues the author) would have subjected to such humiliations a chancellor, who holds the first office in the kingdom since that of constable has been suppressed, and a marshal who was governor to the king, had he not been in reality a sovereign himself, in virtue of his being husband to the queen-regent? He therefore concludes, that the man with the iron masque was son to Anne of Austria and Cardinal Mazarine; and endeavours to justify this assertion by a variety of conjectural proofs. Of some of these we shall give a short sketch:—

1. No prince, or person of any consideration, after the year 1644, at which time the man with the iron masque was born, until the time when his existence was known, disappeared in France. This personage, therefore, was not a prince or great lord of France known at that time.

2. The man with the iron masque was not a foreigner; for foreigners, even of the highest distinction, did not at that period study the French language in such a manner as to attain so great perfection in it as to pass for Frenchmen. If this prisoner had spoken with the least foreign accent, the officers, physicians, surgeons, apothecaries, confessors, and others employed in the prisons where he was, and especially the prisoners with whom he conversed at St Margaret, would not have failed to discover it. From all this M. de St Mihiel infers that he must have been a Frenchman.

3. The existence of the man with the iron masque has been known for upwards of 90 years. Had any person of high rank disappeared at an anterior period, his friends, relations, or acquaintances, would not have failed to claim him, or at least to suppose that he was the man concealed by this masque. But no one disappeared, nor was any one claimed: the man with the iron masque was therefore a person unknown.

4. This man was not torn away from society on account of any criminal action; for when he was arrested, it was foreseen that he would cause much embarrassment, and occasion great expences. He was therefore not a criminal, else means would have been pursued to get rid of him; and consequently all the importance of his being concealed was attached solely to his person.

5. This stranger must have been a person of very

high birth; for the governor of the prison, St Mars, behaved always to him with the greatest respect.

6. Louis XIII. played on the guitar; Louis XIV. did the same in a very masterly manner; and the man with the iron masque played also on that instrument: which gives us reason to believe that his education was directed by the same persons who had presided over that of Louis XIV. and who appear to have been the particular choice of Anne of Austria.

7. This stranger died on the 19th of November 1703; and a few days before his death, he told the apothecary of the Bastille, that he believed he was about 60 years of age. Supposing that he was then 59 and a half, he must have been born towards the end of May 1644; and if he was 60 wanting three months, he must have been born in the end of August, or the beginning of September, of the same year; a period when the royal authority was in the hands of Anne of Austria, but in reality exercised more by Mazarine than by her. "I have already proved (continues the author), that from the first day of the regency of Anne of Austria, the greatest friendship, and even intimacy, subsisted between this princess and the cardinal; that these sentiments were changed into a mutual love; and that they were afterwards united by the bonds of marriage. They might, therefore, well have a son about the month of September 1644, as Louis XIII. had been then dead more than 15 months, having died on the 15th of May the year preceding. But nothing of what I have related, or of what has been written, and acknowledged as fact, respecting the man with the iron masque, can be applied, except to a son of Mazarine and Anne of Austria. The man with the iron masque was indebted, therefore, for his existence to Cardinal Mazarine and the regent widow of Louis XIII."—To account for the manner in which the queen was able to conceal her pregnancy and delivery, Madame de Motteville is quoted; who relates, under the year 1644, that Anne of Austria quitted the Louvre, because her apartments there displeased her: that she went to reside at the Palais Royal, which Richlieu, when he died, bequeathed to the deceased king: that when she first occupied this lodging, *she was dreadfully afflicted with the jaundice*: that the physicians ascribed this disorder to her dejection and application to business, which gave her much embarrassment: but that being cured of her melancholy, as well as of her malady, she resolved to think only of enjoying tranquillity; which she did, by communicating to her minister the burden of public affairs. On this quotation, M. de St Mihiel asks, "Is it not very singular, that the queen, who during the 29 years of her former wedded state, had always resided in the Louvre, especially from 1626, when Louis XIII. ceased to cohabit with her, until their reunion, which took place in the beginning of December 1637, should have quitted it precisely in 1644, because she was displeased with her apartments? How happened it that her apartments displeased her this year, and neither sooner nor later? She might undoubtedly have had any kind of furniture there which she desired, and every alteration made according to her wishes, as she was then absolute mistress: but the cause of her determination to leave the apartments of the Palais Royal, which front



**Masque.** a garden, were much more convenient for her to be delivered in secret."

8. As it is necessary that some name should be given to every man, in order to distinguish him from another, that of *Marchiali* was given to the man with the iron masque: a name which evidently shows, that it had been invented by an Italian. [Cardinal Mazarine was a native of Piscina in the Abruzzo.]

9. Anne of Austria was remarkably delicate respecting every thing that touched her person. It was with great difficulty that cambric could be found fine enough to make shifts and sheets for her. Cardinal Mazarine once rallying her on this subject, said, *That if she should be damned, her punishment in hell would be to sleep in Holland sheets.* The predominant taste of the man with the iron masque, was to have lace and linen of the most extraordinary fineness. "Who (says the author) does not perceive, in this similarity of tastes, the maternal tenderness of Anne of Austria, who would have thought her son a great sufferer had he not been indulged with fine linen?"

"Louis XIII. (continues M. de St Mihiel) was a husband of a gloomy disposition, and an enemy to pleasure: while the queen, on the contrary, was fond of social life; and introduced at the court of France, especially after she became free, that ease and politeness which distinguished it under Louis XIV. from all the other courts of Europe. Louis XIII. had also a disagreeable countenance, and a breath so offensive, that it was a punishment for Richlieu to remain near him. It is clear, therefore, that she could not be much pleased with such a husband. When she became regent of the kingdom by the king's death, which happened on the 14th of May 1643, as she had not enjoyed that happiness which arises from a close union of hearts, it will not appear extraordinary that she should indulge the affection she entertained for Cardinal Mazarine, and that she should marry him. Every circumstance that could tend to favour such a marriage will be found united in her situation. She was at a distance from her family; absolute mistress of all her actions; and had, besides, a heart formed for love. Mazarine, though a cardinal, had never entered into orders; he gave out that he was descended from a great family; he was handsome and well made; he was of a mild, insinuating disposition, and remarkably engaging in conversation; and his office, as prime minister, afforded him every opportunity of visiting and conversing with the queen whenever he thought proper. Is it, therefore, so very astonishing, that, with so many advantages he was able to captivate the queen so far as to induce her to marry him? Such a marriage was not, indeed, according to the usual course of things. Yet it was not without many precedents, particularly among sovereigns of the other sex, who had given their hands to persons of inferior rank. Thus Christian IV. of Denmark espoused Christina Monck; Frederick IV. espoused Mademoiselle Rentlaw; James II. heir to the throne of England, married the daughter of a counsellor; Peter the Great raised to the throne Catharine I. the daughter of a poor villager, yet perhaps the most accomplished woman at that time between the Vistula and the Pole; and Louis XIV. espoused the widow of a poet, but a woman possessed of the most extraordinary merit. As the women, however, are not forgiven so readily as the men

for entering into such marriages, Anne of Austria kept hers a secret from this motive, and because she would have been in danger of losing the regency of the kingdom had it been known."

The reasoning of M. de St Mihiel is both ingenious and plausible; though the probability of the account is somewhat diminished by considering what must have been the queen's age at this period, after she had been Louis's wife for 29 years before his death.—The account immediately preceding, without this objection, seems abundantly credible. But, whether, upon the whole, either of them can be received as decisive, or whether the mystery of the iron masque remains still to be unravelled, we must leave to the reader to determine.

**MASQUE**, in *Architecture*, is applied to certain pieces of sculpture, representing some hideous forms, grotesque, or satyrs faces, &c. used to fill up and adorn vacant places, as in friezes, the pannels of doors, keys of arches, &c. but particularly in grottos.

**MASQUERADE**, or **MASCARADE**, an assembly of persons masqued or disguised, meeting to dance and divert themselves. This was much in use with us, and has been long a very common practice abroad, especially in carnival time.

The word comes from the Italian *mascarata*, and that from the Arabic *mascara*, which signifies "rallery, buffoonery." Granacci, who died in 1543, is said to have been the first inventor of masquerades.

**MASRAKITHA**, a pneumatic instrument of music among the ancient Hebrews, composed of pipes of various sizes, fitted into a kind of wooden chest, open at the top, and stopped at the bottom with wood covered with a skin. Wind was conveyed to it from the lips, by means of a pipe fixed to the chest: the pipes were of lengths musically proportioned to each other, and the melody was varied at pleasure, by stopping and unstopping with the fingers the apertures at the upper extremity. See Plate CCXCVIII.

**MASS**, in *Mechanics*, the matter of any body cohering with it, *i. e.* moving and gravitating along with it. In which sense, *mass* is distinguished from bulk, or volume, which is the expansion of a body in length, breadth, and thickness.

The mass of any body is rightly estimated by its weight: and the masses of two bodies of the same weight are in a reciprocal ratio of their bulks.

**MASS**, *Missa*, in the church of Rome, the office or prayers used at the celebration of the eucharist; or in other words consecrating the bread and wine into the body and blood of Christ, and offering them so transubstantiated as an expiatory sacrifice for the quick and the dead.

As the mass is in general believed to be a representation of the passion of our blessed Saviour, so every action of the priest, and every particular part of the service, is supposed to allude to the particular circumstances of his passion and death.

Nicod, after Baronius, observes that the word comes from the Hebrew *missach* (*oblatum*); or from the Latin *missa missorum*; because in the former times, the catechumens and excommunicated were sent out of the church, when the deacons said *Ite, missa est*, after sermon and reading of the epistle and gospel;







Maffacre  
||  
Maffalians

gers, Troyes, Bourges, La Charité, and especially at Lyons, where they inhumanly destroyed above eight hundred Protestants; children hanging on their parents necks; parents embracing their children; putting ropes about the necks of some, dragging them through the streets, and throwing them, mangled, torn, and half dead, into the river.

It would be endless to mention the butcheries committed at Valence, Romaine, Rouen, &c. We shall, therefore, only add, that, according to Thuanus, above thirty thousand Protestants were destroyed in this maffacre, or as others with greater probability affirm, above one hundred thousand.

Thuanus himself calls this a most detestable villany; and, in abhorrence of St Bartholomew's day, used to repeat these words of P. Statius, *Silv. v. iii. ver. 88. &c.*

*Excidat illa dies ævo, ne postera credant  
Secula. Nos certe taceamus, et obruta multa  
Noctæ tegi propriæ patiamus crimina gentis.*

In the words of Job, chap. iii. ver. 3. &c. "Let that day perish; and let it not be joined unto the days of the year. Let darkness and the shadow of death stain it," &c. And yet, as though this had been the most heroic transaction, and could have procured immortal glory to the authors of it, medals were struck at Paris in honour of it.

But how were the news of this butchery received at Rome, that faithful city, that holy mother of churches! How did the vicar of Christ, the successor of Peter, and the father of the Christian world, relish it? Let Thuanus tell the horrid truth. When the news, says he, came to Rome, it was wonderful to see how they exulted for joy. On the 6th of September, when the letters of the pope's legate were read in the assembly of the cardinals, by which he assured the pope that all was transacted by the express will and command of the king, it was immediately decreed that the pope should march with his cardinals to the church of St Mark, and in the most solemn manner give thanks to God for so great a blessing conferred on the see of Rome and the Christian world; and that on the Monday after, solemn mass should be celebrated in the church of Minerva; at which the pope, Greg. XIII. and cardinals were present; and that a jubilee should be published throughout the whole Christian world, and the cause of it declared to be, to return thanks to God for the extirpation of the enemies of the truth and church in France. In the evening the cannon of St Angelo were fired, to testify the public joy; the whole city illuminated with bonfires; and no one sign of rejoicing omitted that was usually made for the greatest victories obtained in favour of the Roman church.

MASSAGETÆ, an ancient people about whose seat there is as much doubt as about that of the Amazons; Tibullus and Ammian place them near Albania, beyond the Araxes, which sometimes denotes the Oxus; it is probable they dwelt to the east of Sogdiana, (Dionysius Periegetes, Herodotus, Arrian.)

MASSALIANS, a set of enthusiasts who sprang up about the year 361, in the reign of the emperor Constantius, who maintained that men have two souls, a celestial and a diabolical, and that the latter is driven out by prayer.

MASSANIELLO. See *History of NAPLES*.

MASSEIER, in *Anatomy*. See there (*Table of the Muscles*.)

MASSICOT. See MASTICOT.

MASSIEU, WILLIAM, a learned French writer, member of the Academy of Belles Lettres, and of the French Academy, was born at Caen in Normandy in 1665, and completed his studies at Paris, when he entered amongst the Jesuits; but afterwards left them, that he might follow his inclination to polite literature with the greater freedom. In 1710 he was made Greek professor in the royal college; and enjoyed that post till his death, which happened at Paris in 1722. He wrote, 1. Several curious dissertations in the *Memoirs of the Academy of Inscriptions*. 2. A history of the French poetry, in 12mo, &c.

MASSILIA, in *Ancient Geography*, a town of Gallia Narbonensis, a colony of Phœceans, from Phocæa, a city of Ionia, and in confederacy with the Romans; universally celebrated, not only for its port, commerce, and strength, but especially for its politeness of manners and for its learning. According to Strabo, it was the school for the barbarians, who were excited by its means to a fondness for Greek literature, so that even their public and private transactions were all executed in that language. Strabo adds, "At this day the noblest Romans repair thither for study rather than to Athens." Now *Marseilles*, a city and port town of Provence.

MASSILLON, JEAN BAPTISTE, son of a notary at Hieres in Provence, was born in 1663, and entered into the congregation of the oratory in 1681. He gained the affections of every person in the towns to which he was sent, by the charms of his genius, the liveliness of his character, and by a fund of the most delicate and unaffected politeness. His first attempts in the art of eloquence were made at Vienne, while he was professor of theology. His funeral oration on Henry de Villars, archbishop of that city, received universal approbation. This success induced Father de la Tour, who was at that time general of the congregation, to call him to Paris. After he had been there for some time, he was asked what he thought of the preachers who made a figure on that great theatre?—"I find them possessed of great genius and abilities (answered he); but if I preach, I will not preach like them." He in fact kept his word, and struck out a new path in this great field of eloquence. P. Bourdaloue was excepted from the number of those whom he proposed not to imitate. If he did not take him for a model in every thing, the reason was, that his genius led him to a different species of eloquence.—His manner of composing, therefore, was peculiar to himself, and, in the opinion of men of taste and judgement, was superior to that of Bourdaloue. The affecting and natural simplicity of the father of the oratory, (said a great man), appears fitter to bring home the truths of Christianity to the heart than all the dialectics of the Jesuit. We must seek for the logic of the gospel in our own breasts; and the most powerful reasonings on the indispensable duty of relieving the distressed, will make no impression on that man who has beheld without concern the sufferings of his brother. If logic is necessary, it is only in matters of opinion; and these are fitter for the press than for the pulpit, which

Maffaniello  
||  
Maffillou.



Mañillon. which ought not to be the theatre of learned discourses. The truth of these reflections was clearly perceived when he appeared at court. Upon preaching his first Advent sermon at Versailles, he received this eulogium from the mouth of Louis XIV. "Father, when I hear others preach, I am very well pleased with them; but whenever I hear you, I am dissatisfied with myself. The first time he preached his famous sermon on the *small number of the elect*, the whole audience were, at a certain place of it, seized with a sudden and violent emotion, and almost every person half rose from his seat by a kind of involuntary movement. The murmur of acclamation and surprise was so great, that it threw the orator into confusion; but this only heightened the impression of that pathetic discourse. What was most surprising in Mañillon, were his descriptions of the world, which were so sublime, so delicate, and so striking in the resemblance. When he was asked, whence a man, like him, whose life was dedicated to retirement, could borrow them; he answered, "From the human heart; however little we examine it, we will find in it the seeds of every passion. When I compose a sermon (added he), I imagine myself consulted upon some doubtful piece of business. I give my whole application to determine the person who has recourse to me, to act the good and proper part. I exhort him, I urge him, and I leave him not till he has yielded to my persuasions." His declamation did not fail to be accompanied with success. "We think we see him in our pulpits (say those who had the pleasure of hearing him), with the simple air, the modest carriage, the downcast and humble looks, the easy gesture, the affecting tone, and the countenance of a man deeply penetrated with his subject, conveying the clearest information to the understanding, and raising the most tender emotions in the heart." Baron, the famous comedian, having met him one day in a house which was open for the reception of men of letters, paid him this compliment: "Continue to deliver as you do. Your manner is peculiar to yourself; leave the observance of rules to others." When this famous actor came from hearing one of his sermons, truth drew from him the following confession, which is so humiliating to his profession: "Friend (said he to one of his companions who accompanied him), here is an *orator*; we are only *actors*."

In 1704 Mañillon made his second appearance at court, and displayed still more eloquence than before. Louis XIV. after expressing his satisfaction to him, added, in the most gracious tone of voice, *Et je veux, mon pere, vous entendre tous les deux ans*. These flattering encomiums did not lessen his modesty. When one of his fellows was congratulating him upon his preaching admirably, according to custom; Oh! give over, Father (replied he), the devil has told me so already, much more eloquently than you." The duties of his office did not prevent him from enjoying society; and in the country he forgot that he was a preacher, but always without trespassing against decency. One day when he was at the house of M. de Crozat, the latter said to him, "Father, your doctrine terrifies me, but I am encouraged by your life." He was chosen on account of his philosophical and conciliatory disposition of mind, to reconcile the cardinal de Noailles

with the Jesuits. All he gained by his attempts was the displeasure of both parties; and he found that it was easier to convert sinners than to reconcile theologians. In 1717, the regent, personally acquainted with his merit, appointed him to the bishopric of Clermont. The next year, being destined to preach before Louis XV. who was only nine years of age, he composed in six weeks those discourses which are so well known by the name of *Petit Careme*. These are the chef d'œuvre of this orator, and indeed of the oratorical art. They ought continually to be read by preachers as models for the formation of their taste, and by princes as lessons of humanity.

Mañillon was admitted into the French academy a year afterwards, in 1719. The abbacy of Savigny becoming vacant, the cardinal du Bois, to whom he had been weak enough to give an attestation for being a priest, procured it for him. The funeral oration of the duchess of Orleans, in 1723, was the last discourse he pronounced in Paris. He never afterwards left his diocese, where his gentleness, politeness, and kindness, had gained him the affection of all who knew him. He reduced the exorbitant rights of the episcopal roll to moderate sums. In two years, he caused 20,000 livres to be privately conveyed to the Hotel Dieu of Clermont. His peaceable disposition was never more displayed than while he was a bishop. He took great pleasure in collecting the fathers of the oratory and the Jesuits at his country house, and in making them join in some diversion. He died on the 28th of September 1742, at the age of 79. His name has become that of eloquence itself. Nobody ever knew better how to touch the passions. Preferring sentiment to every thing else, he communicated to the soul that lively and salutary emotion which excites in us the love of virtue. What pathetic eloquence did his discourses display! what knowledge of the human heart! what constant disclosing of a mind deeply affected with his subject! what strain of truth, philosophy and humanity! what imagination, at once the most lively, and guided by the soundest judgement! Just and delicate thoughts; splendid and lofty ideas; elegant, well chosen, sublime, and harmonious expressions; brilliant and natural images; true and lively colouring; a clear, neat, swelling and copious style, equally suited to the capacity of the multitude, and fitted to please the man of genius, the philosopher, and the courtier, form the character of Mañillon's eloquence, especially in his *Petit Careme*. He could at once think, describe, and feel. It has been justly observed concerning him, that he was to Bourdaloue what Racine was to Corneille. To give the finishing stroke to his eulogium, Of all the French orators, he is the most esteemed by foreigners.

An excellent edition of Mañillon's works was published by his nephew at Paris in 1745 and 1746, in 14 vols large 12mo, and 12 vols of a small size.— Among them we find, 1. Complete sets of Sermons for Advent and Lent. It is particularly in his moral discourses, such as are almost all those of his sermons for Advent and Lent, that Mañillon's genius appears. He excels, says M. d'Alembert, in that species of eloquence, which alone may be preferred to all others, which goes directly to the heart, and which agitates without wounding the soul. He searches the inmost recesses



Maffillon,  
Maffinger.

recesses of the heart, and lays open the secret workings of the passions, with so delicate and tender a hand, that we are hurried along rather than overcome. His diction, which is always easy, elegant, and pure, everywhere partakes of that noble simplicity, without which there can be neither good taste nor true eloquence; and this simplicity is, in Maffillon, joined to the most attractive and the sweetest harmony, from which it likewise borrows new graces. In short, to complete the charm produced by this enchanting style, we perceive that these beauties are perfectly natural; that they flow easily from this source, and that they have occasioned no labour to the composer. There even occur sometimes in the expressions, in the turns, or in the affecting melody of his style, instances of negligence which may be called happy, because they completely remove every appearance of labour. By thus abandoning himself to the natural current of thought and expression, Maffillon gained as many friends as hearers. He knew, that the more anxious an orator appears to raise admiration, he will find those who hear him the less disposed to bestow it. 2. Several Funeral Orations, Discourses, and Panegyrics, which had never been published. 3. Ten discourses, known by the name of *Petit Careme*. 4. The *Conferences Ecclesiastiques*, which he delivered in the seminary of St Magloire upon his arrival at Paris; those which he delivered to the curates of his diocese; and the discourses which he pronounced at the head of the synods which he assembled every year. 5. Paraphrases on several of the Psalms. The illustrious author of these excellent tracts wished that they had introduced into France a practice which prevails in England, of reading sermons instead of preaching them from memory; a custom which is very convenient, but by which all the warmth and fervour of eloquence are lost. He, as well as two others of his brethren, had stopt short in the pulpit exactly on the same day.— They were all to preach at different hours on Good-Friday, and they went to hear one another in succession. The memory of the first failed; which so terrified the other two, that they experienced the same fate. When our illustrious orator was asked, what was his best sermon? he answered, “That which I am most master of.” The same reply is ascribed to Bourdaloue. The celebrated P. la Rue was of the opinion of Maffillon, that getting by heart was a slavery which deprived the pulpit of a great many orators, and which was attended with many inconveniences to those who dedicated themselves to it. The abbé de la Porte has collected into one vol. 12mo the most striking ideas, and the most sublime strokes, which occur in the works of the celebrated bishop of Clermont. This collection, which is made with great judgment, appeared at Paris in 1748, 12mo, and forms the 15th volume of the large edition in 12mo, and the 13th of the small in 12mo. It is entitled, *Pensées sur differens sujets de morale et de pieté, tirées, &c.*

MASSINGER, PHILIP, an English dramatic poet, was born at Salisbury about the year 1581, and was educated at Oxford. He left the university without taking any degree; and went to London to improve his poetical genius by polite conversation. There he wrote many tragedies and comedies, which were received with vast applause; and were greatly admired for

the economy of the plots and the purity of the style. He was at the same time a person of the most consummate modesty; which rendered him extremely beloved by the poets of his time, particularly by Fletcher, Middleton, Rowley, Field, and Decker, who thought it an honour to write in conjunction with him. He was as remarkable for his abilities as his modesty. He died suddenly at his house on the Bank-side in Southwark, near the playhouse; and was interred in St Saviour's churchyard, in the same grave with Mr Fletcher the poet.

MASSIVE, among builders, an epithet given to whatever is too heavy and solid: thus a massive column is one too short and thick for the order whose capital it bears; and a massive wall is one whose openings or lights are too small in proportion.

MASSON, PAPIRIUS, a French writer, was the son of a rich merchant, and born in the territory of Forez, May 1544. After studying the belles lettres and philosophy, and travelling to different places, he came to Paris, where he was made librarian to the chancellor of the duke of Anjou, in which place he continued ten years. In 1576, he was made an advocate of parliament; yet never pleaded but one cause, which, however, he gained with universal applause.— When the troubles of France were at an end, he married the sister of a counsellor in parliament, with whom he lived thirty-four years, but had no issue by her.— The infirmities of age attacked him some time before his death, which happened Jan. 9. 1611. He wrote four books of French annals in Latin, first printed at Paris 1577, and afterwards in 1598, 4to. The second edition, more enlarged than the first, deduces things from Pharamond to Henry II. Masson considered this as his principal performance; yet he is now chiefly known by his *Elogia virorum clarissimorum*, although he published several other works.

MASSON, John, a reformed minister in Holland some years ago. He was originally of France, but fled into England, to enjoy that liberty in religion which his country refused him. He wrote, 1. *Histoire critique de la republique des lettres*, from 1712 to 1717, in 15 vols 12mo. 2. *Vita Horatii, Ovidii, et Plinii junioris*, 3 vols small 8vo, and printed abroad, though dedicated to Englishmen of rank: the first at Leyden, 1708, to Lord Harvey; the second at Amsterdam, 1708, to Sir Justinian Isham; the third at Amsterdam, 1709, to the bishop of Worcester. These lives are drawn up in a chronological order, very learnedly and very critically; and serve to illustrate the history, not only of those particular persons, but of the times also in which they lived. 3. *Histoire de Pierre Bayle et des ses ouvrages*; Amsterdam, 1716, in 12mo. This at least is supposed to be his, though at first it was given to M. la Monnoye.

MASSON, Antony, an eminent French engraver, who flourished towards the conclusion of the last century, and resided chiefly at Paris. It appears that he sometimes amused himself with painting portraits from the life, some of which he also engraved. We have no account of the life of this extraordinary artist; nor are we even informed from what master he learned the principles of engraving. He worked entirely with the graver, and handled that instrument with astonishing facility. He seems to have had no kind of rule

Massive,  
Masson.



*Massuah.* to direct him with respect to the turning of the strokes; but twisted and twirled them about, without the least regard to the different forms he intended to express, making them entirely subservient to his own caprice. Yet the effect he has produced in this singular manner (Mr Strutt observes), is not only far superior to what one could have supposed, but is often very picturesque and beautiful. It was not in historical engraving that his greatest strength consisted. He could not draw the naked parts of the human figure so correctly as was necessary; but where the subject required the figures to be clothed, he succeeded in a wonderful manner. Among the most esteemed works by this admirable artist, may be reckoned the following: The assumption of the Virgin, a large upright plate from Rubens; a holy family, a middling-sized plate, lengthwise, from N. Mignard; Christ with the pilgrims at Emaus, a large plate, lengthwise, from Titian, the original picture of which is in the cabinet of the king of France. This admirable print is commonly known by the name of *the table-cloth*: for the cloth, with which the table is covered, is executed in a very singular style. Also the following portraits, among others: The Comte de Harcourt, a large upright plate, reckoned a masterpiece in this class of subjects; Guillaume de Brisacier, secretary to the queen of France; a middling-sized upright plate: usually known in England by the name of *the Gray-headed Man*, because the hair in this print is so finely executed.

MASSUAH, a small island in the Red sea, near the coast of Abyssinia, about three quarters of a mile long, and half as broad, one-third of which is occupied by houses, another by cisterns for receiving rain-water, and one reserved for a burial place. It has an excellent harbour, with water sufficiently deep for ships of any size to the very edge of the island; and so well secured, that they may ride in safety, let the wind blow from what quarter or with what degree of strength it will. By the ancients it was called *Sebasticum Or*, and was formerly a place of great consequence on account of its harbour, from whence a very extensive commerce was carried on, and possessed a share of the Indian trade in common with other ports of the Red sea near the Indian ocean.— A very considerable quantity of valuable goods was also brought thither from the tract of mountainous country behind it, which in all ages has been accounted very inhospitable, and almost inaccessible to strangers. The principal articles of exportation were gold, ivory, elephants and buffaloes hides; but above all, slaves, who, on account of their personal qualifications, were more esteemed than those from any other quarter. Pearls of a considerable size, and of a fine water, are likewise found along the coast; from the abundance of all which valuable commodities, the great defect, a want of water, was forgot, and the inhabitants cheerfully submitted to such a great inconvenience. The island of Massuah fell under the power of the Turks in the time of the emperor Selim, soon after the conquest of Arabia Felix by Sinan Basha, and was for some time governed by an officer from Constantinople. From thence the conquest of Abyssinia was for some time attempted, but always without success. Hence it began to lose its value as a garrison for troops, as it

had done in the commercial way after the discovery of *Massuah.* the passage to India by the Cape of Good Hope.— Being thus deprived of its importance in every respect, the Turks no longer thought it worth while to send a bashaw thither as formerly, but conferred the government upon the chief of a tribe of Mahometans named *Belowie*, who inhabit the coasts of the Red sea under the mountains of Habab, in the latitude of about 14° north. On this officer they conferred the title of *Naybe*; and on the removal of the bashaw, he remained in fact master of the place, though, to save appearances, he pretended to hold it from the Ottoman Porte, by a firman from the Grand Signior for that purpose, and the payment of an annual tribute.

The Turks had originally put into the town of Massuah a garrison of Janizaries; who, being left there on the withdrawing of the bashaw, and intermarrying with the natives, soon became entirely subjected to the naybe's influence. The latter, finding himself at a great distance from his protectors the Turks, whose garrisons were everywhere falling into decay, and that in consequence of this he was entirely in the power of the emperor of Abyssinia, began to think of taking some method of securing himself on that side. Accordingly it was agreed that one half of the customs should be paid to the Abyssinian monarch; who in return was to allow him to enjoy his government unmolested. Having thus secured the friendship of the emperor of Abyssinia, the naybe began gradually to withdraw the tribute he had been accustomed to pay to the bashaw of Jidda, to whose government Massuah had been assigned; and at last to pay as little regard to the government of Abyssinia: and in this state of independence he was when Mr Bruce arrived there in 1769 on his way to Abyssinia. This gentleman found both the prince and his people extremely inhospitable and treacherous; so that he underwent a variety of dangers during his residence there, nor was it without great difficulty that he could get away from thence at last.

The island of Massuah, as we have said, is entirely destitute of water; nor can it be supplied with provisions of any kind but from the mountainous country of Abyssinia on the continent. Arkeeko, a large town in the bottom of the bay, has water, but is in the same predicament with regard to provisions; for the adjacent tract of flat land, named *Samhar*, is a perfect desert, inhabited only from the month of November to April by some wandering tribes, who carry all their cattle to the Abyssinian side of the mountains when the rains fall there. Being thus in the territories of the Abyssinians, it is in the power of the emperor of that country, or of his officer the baharnagash, to starve Massuah and Arkeeko, by prohibiting the passage of any provisions from the Abyssinian side of the mountains.

The houses of Massuah are generally constructed of long poles and bent grass, as is usual with other towns of Arabia: only about 20 are of stone, and six or eight of these two stories high. The stones with which they are built have been drawn out of the sea; and in them the bed of that curious muscle found embodied in the solid rock at Mahon is frequently to be seen. These are called *dattoli da mare*, or sea dates: but our author never saw any of the fish themselves, though



Masſuah  
||  
Maſt.

though he has no doubt that they may be met with in the rocky iſlands of Maſſuah, if they would take the trouble of breaking the rocks for them. All the neceſſaries of life are very dear in this place; and their quality is alſo very indifferent, owing to the diſtance from whence they muſt be brought, and the danger of carrying them through the deſert of Samhar, as well as to the extortions of the naybe himſelf, who, under the name of *cuſtoms*, takes whatever part of the goods he thinks proper; ſo the profit left to the merchant is ſometimes little or nothing. All the money here is valued by the Venetian ſequin; and it is owing to the commercial intercourſe with the Arabian coaſt, that any money at all is to be met with on this iſland or the eaſtern coaſt of Africa. Glaſs beads of all kinds and colours, whether whole or broken, paſs for ſmall money.

Though Maſſuah has now loſt very much of its commercial importance, a conſiderable trade is ſtill carried on from the place. From the Arabian ſide are imported blue cotton and other cloths; ſome of them from India being very fine. Other articles are Venetian beads, crystal, looking and drinking glaſſes, with cochol or crude antimony. Theſe three laſt articles come in great quantity from Cairo, firſt in the coffee ſhips to Jidda, and then in ſmall barks to the port of Maſſuah. Old copper is alſo a valuable article of commerce. The Galla and all the various tribes to the weſtward of Gondar wear bracelets of this metal, which in ſome parts of that barbarous country is ſaid to ſell for its weight of gold. Here is alſo a ſhell, an univalve of the ſpecies of volutes, which ſells at a high price, and paſſes for money among the various tribes of Galla. The Banians were once the principal merchants of Maſſuah; but their number is now reduced to fix, who are ſilversmiths, and ſubſiſt by making ornaments for the women on the continent. They likewiſe eſſay gold, but make a poor livelihood.

MASSUET, RENE, or RENATUS, a very learned Benedictine of the congregation of St Maur, was born at S. Owen de Macelles, in 1665. He is chiefly known for the new edition of St Irenæus, which he published in 1710. He conſulted ſeveral manuſcripts, which had never been examined for that purpoſe, and made new notes and learned prefaces. He died in 1716, after having written and published ſeveral other works.

MAST, a long round piece of timber, elevated perpendicularly upon the keel of a ſhip, to which are attached the yards, the ſails, and the rigging. A maſt, with regard to its length, is either formed of one ſingle piece, which is called a *poſe-maſt*, or compoſed of ſeveral pieces joined together, each of which retains the name of maſt ſeparately. The loweſt of theſe is accordingly named the *lower-maſt*, *a* fig. 1.; the next in height is the top-maſt, *b*, which is erected at the head of the former; and the higheſt is the top-gallant-maſt, *c*, which is prolonged from the upper end of the top-maſt. Thus the two laſt are no other than a continuation of the firſt upwards.

The lower-maſt is fixed in the ſhip by an apparatus deſcribed in the articles HULK and SHEERS: the foot, or heel of it reſts in a block of timber called the *ſtep*, which is fixed upon the *keſſon*: and the top-maſt is attached to the head of it by the *cap* and the *treſſle trees*.

The latter of theſe are two ſtrong bars of timber, ſupported by two prominences, which are as ſhoulders on the oppoſite ſides of the maſt, a little under its upper end: athwart theſe bars are fixed the *croſs-trees*, upon which the frame of the top is ſupported. Between the lower maſt head and the foremoſt of the croſs-trees, a ſquare ſpace remains vacant, the ſides of which are bounded by the two treſſle-trees. Perpendicularly above this is the foremoſt hole in the cap, whoſe after hole is ſolidly fixed on the head of the lower-maſt. The top-maſt is erected by a tackle, whoſe effort is communicated from the head of the lower maſt to the foot of the top-maſt; and the upper end of the latter is accordingly guided into and conveyed up through the holes between the treſſle-trees and the cap, as above mentioned. The machinery by which it is elevated, or, according to the ſea phraſe, *ſwayed up*, is fixed in the following manner: the top rope *d*, fig. 3. paſſing through a block *e*, which is hooked on one ſide of the cap, and afterwards through a hole, furniſhed with a ſheave or pulley *f*, on the lower end of the top-maſt, is again brought upwards on the other ſide of the maſt, where it is at length faſtened to an eye-bolt in the cap *g*, which is always on the ſide oppoſite to the top-block *e*. To the lower end of the top-rope is fixed the top-tackle *h*, the effort of which being tranſmitted to the top-rope *d*, and thence to the heel of the top-maſt *f*, neceſſarily liſts the latter upwards, parallel to the lower-maſt. When the top-maſt is raiſed to its proper height, fig. 4. the lower end of it becomes firmly wedged in the ſquare hole above deſcribed, between the treſſle-trees. A bar of wood or iron called the *ſid*, is then thruſt through a hole *i* in the heel of it, acroſs the treſſle-trees, by which the whole weight of the top-maſt is ſupported.

In the ſame manner as the top-maſt is retained at the head of the lower-maſt, the top-gallant-maſt is erected, and fixed at the head of the top-maſt.

Befides the parts already mentioned in the conſtruction of maſts, with reſpect to their length, the lower maſts of the largeſt ſhips are compoſed of ſeveral pieces united into one body. As theſe are generally the moſt ſubſtantial parts of various trees, a maſt, formed by this aſſemblage, is juſtly eſteemed much ſtronger than one conſiſting of any ſingle trunk, whoſe internal ſolidity may be very uncertain. The ſeveral pieces are formed and joined together, as repreſented in the ſection of a lower-maſt of this ſort, fig. 5. where *a* is the ſhaft, or principal piece into which the reſt are fixed, with their ſides or faces cloſe to each other. The whole is ſecured by ſeveral ſtrong hoops of iron, driven on the outside of the maſt, where they remain at proper diſtances.

The principal articles to be conſidered in equipping a ſhip with maſts are, 1ſt, the number; 2d, their ſituation in the veſſel; and, 3d, their height above the water.

The maſts being uſed to extend the ſails by means of their yards, it is evident, that if their number were multiplied beyond what is neceſſary, the yards muſt be extremely ſhort, that they may not entangle each other in working the ſhip, and by conſequence their ſails will be very narrow, and receive a ſmall portion of wind. If, on the contrary, there is not a ſufficient number of maſts in the veſſel, the yards will be too large

Plate  
CCXV.]











**Mast.** large and heavy, so as not to be managed without difficulty. There is a mean between these extremes, which experience and the general practice of the sea have determined; by which it appears, that in large ships every advantage of sailing is retained by three masts and a bowsprit.

The most advantageous position of the masts is undoubtedly that from whence there results an equilibrium between the resistance of the water on the body of the ship on the one part, and of the direction of their effort on the other. By every other position this equilibrium is destroyed, and the greatest effort of the masts will operate to turn the ship horizontally about its direction; a circumstance which retards her velocity. It is counterbalanced indeed by the helm; but the same inconvenience still continues; for the force of the wind, having the resistance of the helm to overcome, is not entirely employed to push the vessel forward. The axis of the resistance of the water should then be previously determined, to discover the place of the *main-mast*, in order to suspend the efforts of the water equally, and place the other masts so as that their particular direction will coincide with that of the main-mast. The whole of this would be capable of a solution, if the figure of the vessel were regular, because the point, about which the resistance of the water would be in equilibrio, might be discovered by calculation.

But when the real figure of the ship is considered, these flattering ideas will instantly vanish. This observation induced M. Saverien to employ a mechanical method to discover the axis of resistance of the water, which he apprehended might be used with success in the manner following:

When the vessel is launched, before the places of the masts are determined, extend a rope AB, fig. 6. from the head to the stern. To the extremities A and B attach two other ropes, AD, BC, and apply to the other ends of these ropes two mechanical powers, to draw the ship according to the direction BC, parallel to itself. The whole being thus disposed, let a moveable tube Z, fixed upon the rope AB, have another rope ZR attached to it, whose other end communicates with a mechanical power R, equal to the two powers D and C. This last being applied to the same vessel, in such manner as to take off the effects of the two others by sliding upon the rope AB, so as to discover some point Z, by the parallelism of the ropes, AD, BC feebly extended with the rope ZR; the line ZR will be the axis of the equilibrium of the water's resistance, and by consequence the main-mast should be planted in the point Z.

The figures E, E, E, are three windlasses on the shore, by which this experiment is applied.

With regard to the situation of the other masts, it is necessary, in the same manner, to discover two points; so that the direction of the two mechanical powers operating, will be parallel to the axis of resistance RZ already found.

The exact height of the masts, in proportion to the form and size of the ship, remains yet a problem to be determined. The more the masts are elevated above the centre of gravity, the greater will be the surface of sail which they are enabled to present to the wind; so far an additional height seems to have been advantageous. But this advantage is diminished by the cir-

cular movement of the mast, which operates to make the vessel stoop to its effort; and this inclination is increased in proportion to the additional height of the mast, an inconvenience which it is necessary to guard against. Thus what is gained upon one hand is lost upon the other. To reconcile these differences, it is certain, that the height of the mast ought to be determined by the inclination of the vessel, and that the point of her greatest inclination should be the term of this height above the centre of gravity. See the article TRIM.

With regard to the general practice of determining the height of the masts, according to the different rates of the ships in the royal navy, the reader is referred to the article SAIL.

In order to secure the masts, and counterbalance the strain they receive from the effort of the sails impressed by the wind, and the agitation of the ship at sea, they are sustained by several strong ropes, extended from their upper ends to the outside of the vessel, called *shrouds*, as represented in fig. 4. They are further supported by other ropes, stretched from their heads towards the fore part of the vessel.

The mast, which is placed at the middle of the ship's length, is called the *main-mast*; that which is placed in the fore part, the *fore-mast*; and that which is towards the stern, is termed the *mizen-mast*.

N. B. *Mizen* is applied to this mast by all the nations of Europe, except the French, who alone call the fore-mast *misaine*.

MASTER, a title given to several officers and persons of authority and command; particularly to the chiefs of the orders of knighthood, &c.—Thus we say the grand master of Malta; of St Lazarus; of the Golden Fleece; of the Free Masons, &c.

MASTER (*Magister*), was a title frequent among the Romans: they had their master of the people, *magister populi*, who was the dictator. Master of the cavalry, *magister equitum*, who held the second post in an army after the dictator. Under the later emperors there were also masters of the infantry, *magistri pedum*. A master of the census, *magister census*, who had nothing of the charge of a censor, or subcensor, as the name seems to intimate; but was the same with the *præpositus frumentariorum*.

MASTER of the Militia (*magister militiæ*), was an officer in the lower empire, created, as it is said, by Dioclesian, who had the inspection and government of all the forces, with power to punish, &c. somewhat like a constable of France. At first there were two of these officers instituted, the one for the infantry, and the other for the cavalry; but the two were united into one under Constantine. Afterwards, as their power was increased, so was their number also; and there was one appointed for the court, another for Thrace, another for the East, and another for Illyria. They were afterwards called *comites*, *counts*, and *clarissimi*. Their power was only a branch of that of the *præfectus prætorii*, who by that means became a civil officer.

MASTER of Arms (*magister armorum*), was an officer or comptroller under the master of the militia.

MASTER of the Offices (*magister officiorum*), had the superintendance of all the officers of the court; he was also called *magister officii palatini*, simply *magister*; and

**Master.**



*Master.* his post *magisteria*.—This officer was the same in the western empire with the *curopalates* in the eastern.

*MASTER at Arms*, among us, is an officer appointed to teach the officers and crew of a ship of war the exercise of small arms; to confine and plant centinels over the prisoners, and superintend whatever relates to them during their confinement. He is also to observe that the fire and lights are all extinguished as soon as the evening gun is fired, except those which are permitted by proper authority, or under the inspection of centinels. It is likewise his duty to attend the gangway when any boats arrive aboard, and search them carefully, together with their rowers, that no spirituous liquors may be conveyed into the ship unless by permission of the commanding officers. In these several duties he is assisted by proper attendants, called his *corporals*, who also relieve the centinels and one another at certain periods.

*MASTER of Arts*, the first degree taken up in foreign universities, but the second in ours; candidates not being admitted to it till they have studied in the university seven years.

*MASTER-Attendant*, is an officer in the royal dockyards, appointed to hasten and assist at the fitting out or dismantling, removing, or securing vessels of war, &c. at the port where he resides. He is particularly to observe, that his majesty's ships are securely moored, and for this purpose he is expected frequently to review the moorings which are sunk in the harbour, and observe that they are kept in proper repair. It is also his duty to visit all the ships in ordinary, and see that they are frequently cleaned and kept in order; and to attend at the general musters in the dockyards, taking care that all the officers, artificers, and labourers, registered in the navy-books, are present at their duty.

*MASTER of the Ceremonies*, is an officer instituted by King James I. for the more solemn and honourable reception of ambassadors, and strangers of quality, whom he introduces into the presence.—The badge of this office is a gold chain and medal, having on one side an emblem of peace, with King James's motto; and on the reverse the emblem of war, with *Dieu et mon droit*. He is always supposed to be a person of good address, and a master of languages, and has an appointment of 300l. a-year: he is constantly attending at court, and hath under him an assistant-master, or deputy, at 6s. 8d. a-day, who holds his place during the king's pleasure.

There is also a third officer, called *marshal of the ceremonies*, with 100l. a-year, whose business is to receive and distribute the master's orders, or the deputy's, for the service; but without their order he can do nothing. This is the king's gift.

*MASTERS of Chancery* are usually chosen out of the barristers of the common law; and sit in chancery, or at the rolls, as assistants to the lord chancellor and the master of the rolls. All these, so late as the reign of Queen Elizabeth, were commonly doctors of the civil law.—To them are also committed interlocutory reports, examination of bills in chancery, stating of accounts, taxing costs, &c. and sometimes, by way of reference, they are empowered to make a final determination of causes.

They have, time out of mind, had the honour to sit

in the house of lords, though they have neither writs nor patent to empower them; but they are received as assistants to the lord chancellor and master of the rolls. They had anciently the care of inspecting all writs of summons, which is now performed by the clerk of the petty-bag. When any message is sent from the lords to the commons, it is carried by the masters of chancery. Before them also affidavits are made, and deeds and recognizances acknowledged.

Besides these, who may be called *masters of chancery ordinary*, (being 12 in number, whereof the master of the rolls is reputed the chief), there are also masters of chancery extraordinary, appointed to act in the several counties of England beyond 10 miles distance from London, by taking affidavits, recognizances, &c. for the ease of the suitors of the court.

*MASTER of the Faculties*, an officer under the archbishop of Canterbury, who grants licenses and dispensations: he is mentioned in the statute 22 and 23 Car. II. See *COURT of Faculties*.

*MASTER Gunner*. See *GUNNER*.

*MASTER of the Horse* is reckoned the third great officer of the court, and is an office of great honour and antiquity, and always (when not put in commission), filled by noblemen of the highest rank and abilities. He has the management and disposal of all the king's stables and bred horses. He has authority over the equerries and pages, coachmen, footmen, grooms, riders of the great horse, farriers, and smiths. He appoints all the other tradesmen who work for the king's stables; and by his warrant to the avenor, makes them give an oath to be true and faithful. In short, he is intrusted with all the lands and revenues appropriated for the king's breed of horses, the expences of the stable, and of the coaches, litters, &c. He alone has the privilege of making use of any of the king's horses, pages, footmen, &c.; and at any solemn cavalcade he rides next the king, and leads a horse of state. His salary is 1276l. 13s. 4d. per annum. There is also a master of the horse in the establishment of her majesty's household, with a salary of 800l. a-year.

*MASTER of the Household*, is an officer under the treasurer of the household, in the king's gift: his business is to survey the accounts of the household.—He has 66l. 13s. 4d. a-year wages, and 433l. 6s. 8d. board wages.

*MASTER of the Mint*, was anciently the title of him who is now called *warden of the mint*; whose office is to receive the silver and bullion which comes to the mint to be coined, and to take care thereof. The office of master and worker is now distinct: and this officer is allowed for himself and three clerks 650l. a-year.

*MASTER of the Ordnance*. See *ORDNANCE*.

*MASTER of the Revels*, an officer with an appointment of 100l. a-year, whose business is to order all things relating to the performance of plays, masques, balls, &c. at court. Formerly he had also a jurisdiction of granting licenses to all who travel to act plays, puppet shows, or the like diversions; neither could any new play be acted at either of the two houses till it had passed his perusal and license; but these powers were afterwards much abridged, not to say annihilated, by a statute for regulating playhouses, till the licensing plays by the lord chamberlain was established.

*Master.*



**Master.** established. This officer has a yeoman with 46l. 11s. 8d. a-year.

**MASTER of the Rolls**, a patent officer for life; who has the custody of the rolls and patents which pass the great seal, and of the records of the chancery.

In the absence of the lord chancellor or keeper, he also sits as judge in the court of chancery; and is by Sir Edward Coke called his *assistant*.

At other times he hears causes in the rolls chapel, and makes orders and decrees. He is also the first of the masters of chancery, and has their assistance at the rolls: but all hearings before him are appealable to the lord chancellor.

He has also his writ of summons to parliament, and sits next to the lord chief justice of England on the second woolpack. He has the keeping of the parliament rolls, and has the rolls-house for his habitation; as also the custody of all charters, patents, commissions, deeds, and recognisances, which being made of rolls of parchment gave rise to the name. Anciently he was called *clerk of the rolls*.

Concerning the authority of the master of the rolls to hear and determine causes, and his general power in the court of chancery, there were (not many years since) divers questions and disputes very warmly agitated; to quiet which it was declared by stat. 3. Geo II. cap. 30. that all orders and decrees by him made, except such as by the course of the court were appropriated to the great seal alone, should be deemed to be valid; subject nevertheless to be discharged or altered by the lord chancellor, and so as they shall not be enrolled till the same are signed by his lordship.

In his gift are the six clerks in chancery, the examiners, three clerks of the petty-bag, and the six clerks of the rolls chapel where the rolls are kept. See **ROLLS, CLERK, &c.**

The master of the rolls is always of the privy council; and his office is of great profit, though much short of what it has been.

**MASTER of a Ship**, an officer to whom is committed the direction of a merchant vessel, who commands it in chief, and is charged with the merchandises aboard.

In the Mediterranean the master is frequently called *patron*, and in long voyages *captain*.

It is the proprietor of the vessel that appoints the master; and it is the master who provides the equipage, hires the pilots, sailors, &c. The master is obliged to keep a register of the seamen and officers, the terms of their contract, the receipts and payments, and, in general, every thing relating to his commission.

**MASTER of a Ship of War**, is an officer appointed by the commissioners of the navy, to take charge of navigating a ship from port to port under the direction of the captain. The management and disposition of the sails, the working of a ship into her station in the order of battle, and the direction of her movements in the time of action, and in other circumstances of danger, are also more particularly under his inspection. It is likewise his duty to examine the provisions, and accordingly to admit none into the ship but such as are found, sweet, and wholesome. He is moreover charged with the stowage; and for the

performance of these services he is allowed several assistants who are properly termed *mates* and *quarter-masters*.

**MASTER of the Temple**. The founder of the order of the templars, and all his successors, were called *magni templi magistrum*; and ever since the dissolution of the order, the spiritual guide and director of the house is called by that name. See **TEMPLE** and **TEMPLAR**.

There were also several other officers under this denomination, as master of the wardrobe, with a salary of 2000l. a-year; master of the harriers, with 2000l. a-year; master of the staghounds, with 800l. a-year; master of the jewel-office, &c. all now abolished.

**MASTER and Servant**; a relation founded in convenience, whereby a man is directed to call in the assistance of others, where his own skill and labour will not be sufficient to answer the cares incumbent upon him. For the several sorts of servants, and how that character is created or destroyed, see the article **SERVANT**. In the present article we shall consider, first, the effect of this relation with regard to the parties themselves; and, secondly, its effects with regard to others.

1. The manner in which this relation affects either the master or servant. And, first, by hiring and service for a year, or apprenticeship under indentures, a person gains a settlement in that parish wherein he last served 40 days. In the next place, persons serving seven years as apprentices to any trade have an exclusive right to exercise that trade in any part of England. This law, with regard to the exclusive part of it, has by turns been looked upon as a hard law, or as a beneficial one, according to the prevailing humour of the times: which has occasioned a great variety of resolutions in the courts of law concerning it; and attempts have been frequently made for its repeal, though hitherto without success. At common law every man might use what trade he pleased; but this statute restrains that liberty to such as have served as apprentices: the adversaries to which provision say, that all restrictions (which tend to introduce monopolies) are pernicious to trade; the advocates for it allege, that unskilfulness in trades is equally detrimental to the public as monopolies. This reason indeed only extends to such trades, in the exercise whereof skill is required: but another of their arguments goes much farther; viz. that apprenticeships are useful to the commonwealth, by employing of youth, and learning them to be early industrious; but that no one would be induced to undergo a seven years servitude, if others, though equally skilful, were allowed the same advantages without having undergone the same discipline: and in this there seems to be much reason. However, the resolutions of the courts have in general rather confined than extended the restriction. No trades are held to be within the statute, but such as were in being at the making of it: for trading in a country village, apprenticeships are not requisite, and following the trade seven years is sufficient without any binding; for the statute only says, the person must serve as an apprentice, and does not require an actual apprenticeship to have existed.

A master may by law correct his apprentice for negligence



*Master.* negligence or other misbehaviour, so it be done with moderation: though, if the master or master's wife beats any other servant of full age, it is good cause of departure. But if any servant, workman, or labourer, assaults his master or dame, he shall suffer one year's imprisonment, and other open corporal punishment, not extending to life or limb.

By service all servants and labourers, except apprentices, become entitled to their wages; according to agreement, if menial servants; or according to the appointment of the sheriff or sessions, if labourers or servants in husbandry; for the statutes for regulation of wages extend to such servants only; it being impossible for any magistrate to be a judge of the employment of menial servants, or of course to assess their wages.

2. Let us now see how strangers may be affected by this relation of master and servant; or how a master may behave towards others on behalf of his servant, and what a servant may do on behalf of his master.

And, first, the master may *maintain*, that is, abet and assist, his servant in any action at law against a stranger: whereas, in general, it is an offence against public justice to encourage suits and animosities, by helping to bear the expence of them, and is called in law *maintenance*. A master also may bring an action against any man for beating or maiming his servant: but in such case he must assign, as a special reason for so doing, his own damage by the loss of his service; and this loss must be proved upon the trial. A master likewise may justify an assault in defence of his servant, and a servant in defence of his master: the master, because he has an interest in his servant, not to be deprived of his service; the servant, because it is part of his duty, for which he receives his wages, to stand by and defend his master. Also if any person do hire or retain my servant, being in my service, for which the servant departeth from me and goeth to serve the other, I may have an action for damages against both the new master and the servant, or either of them; but if the new master did not know that he is my servant, no action lies; unless he afterwards refuse to restore him upon information and demand. The reason and foundation upon which all this doctrine is built, seem to be the property that every man has in the service of his domestics; acquired by the contract of hiring, and purchased by giving them wages.

As for those things which a servant may do on behalf of his master, they seem all to proceed upon this principle, that the master is answerable for the act of his servant, if done by his command, either expressly given or implied: *nam qui facit per alium, facit per se*. Therefore, if the servant commit a trespass by the command or encouragement of his master, the master shall be guilty of it: not that the servant is excused, for he is only to obey his master in matters that are honest and lawful. If an innkeeper's servants rob his guests, the master is bound to restitution; for as there is a confidence reposed in him, that he will take care to provide honest servants, his negligence is a kind of implied consent to the robbery; *nam qui non prohibet, cum prohibere possit, jubet*. So likewise if the drawer at a tavern sells a man bad wine, whereby his health is injured, he may bring an action against the master; for although the master did not expressly order the ser-

vant to sell it to that person in particular, yet his permitting him to draw and sell it at all is implied a general command.

*Master.* In the same manner, whatever a servant is permitted to do in the usual course of his business, is equivalent to a general command. If I pay money to a banker's servant, the banker is answerable for it: If I pay it to a clergyman's or a physician's servant, whose usual business it is not to receive money for his master, and he embezzles it, I must pay it over again. If a steward lets a lease of a farm, without the owner's knowledge, the owner must stand to the bargain: for this is the steward's business. A wife, a friend, a relation, that use to transact business for a man, are *quoad hoc* his servants; and the principal must answer for their conduct: for the law implies, that they act under a general command; and without such a doctrine as this no mutual intercourse between man and man could subsist with any tolerable convenience. If I usually deal with a tradesman by myself, or constantly pay him ready money, I am not answerable for what my servant takes up upon trust: for here is no implied order to the tradesman to trust my servant: but if I usually send him upon trust, or sometimes on trust and sometimes with ready money, I am answerable for all he takes up; for the tradesman cannot possibly distinguish when he comes by my order and when upon his own authority.

If a servant, lastly, by his negligence does any damage to a stranger, the master shall answer for his neglect: if a smith's servant lames a horse while he is shoeing him, an action lies against the master, and not against the servant. But in these cases the damage must be done while he is actually employed in the master's service; otherwise the servant shall answer for his own misbehaviour. Upon this principle, by the common law, if a servant kept his master's fire negligently, so that his neighbour's house was burned down thereby, an action lay against the master; because this negligence happened in his service: otherwise, if the servant, going along the street with a torch, by negligence sets fire to a house; for there he is not in his master's immediate service, and must himself answer the damage personally. But now the common law is, in the former case, altered by statute 6 Ann. c. 3. which ordains, that no action shall be maintained against any in whose house or chamber any fire shall accidentally begin; for their own loss is sufficient punishment for their own or their servant's carelessness. But if such fire happens through negligence of any servant (whose loss is commonly very little), such servant shall forfeit 100l. to be distributed among the sufferers; and, in default of payment, shall be committed to some workhouse, and there kept to hard labour for 18 months. A master is, lastly, chargeable if any of his family layeth or casteth any thing out of his house into the street or common highway, to the damage of any individual, or the common nuisance of his majesty's liege people; for the master hath the superintendance of all his household. And this also agrees with the civil law; which holds, that the *pater familias*, in this and similar cases, *ob alterius culpam tenetur, sive servi, sive liberi*.

We may observe, that in all the cases here put, the master may be frequently a loser by the trust reposed in



Master  
||  
Mastiff.

in his servant, but never can be a gainer: he may frequently be answerable for his servant's misbehaviour, but never can shelter himself from punishment by laying the blame on his agent. The reason of this is still uniform and the same; that the wrong done by the servant is looked upon in law as the wrong of the master himself; and it is a standing maxim, that no man shall be allowed to make any advantage of his own wrong.

*MASTER Load*, in mining, a term used to express the larger vein of a metal, in places where there are several veins in the same mountain. Thus it happens, that there are seven, sometimes five, but more usually three veins or loads, parallel to each other in the same mountain. Of these the middle vein is the largest, and is called the *master load*.

*MASTER Wort*. See IMPERATORIA, BOTANY Index.

**MASTICATION**, the action of chewing, or of agitating the solid parts of our food between the teeth, by the motion of the jaws, the tongue, and the lips, whereby it is broken into small pieces, impregnated with saliva, and so fitted for deglutition and a more easy digestion. See ANATOMY, N<sup>o</sup> 104.

**MASTICH**, a kind of resin exuding from the lentiscus tree; and brought from Chio, in small yellowish transparent grains or tears of an agreeable smell, especially when heated or set on fire. See PISTACHIA.

This resin is recommended in old coughs, dysenteries, hæmoptœs, weakness of the stomach, and in general in all debilities and laxity of the fibres. Geoffroy directs an aqueous decoction of it to be used for these purposes: but water extracts little or nothing from this resin. Rectified spirit almost entirely dissolves it, and the solution is very warm and pungent. Mastich is to be chosen in drops, clear, well scented, and brittle.

We meet with a kind of cement sometimes kept in the shops under the name of mastich. It is composed of this gum, and several other ingredients, and is formed into cakes for use. This is intended for the service of lapidaries, to fill up cracks in stones, &c. but is by no means to be used for any medicinal purposes.

**MASTICOT**, **MASSICOT**, or **YELLOW LEAD**, is the calx or ashes of lead, gently calcined, by which it is changed to yellow or lighter or deeper tint, according to the degree of calcination. Masticot is sometimes used by painters, and it serves medicinally as a drier in the composition of ointments or plasters. The masticot which is used by the Dutch as the ground of their glazing, is prepared by calcining a mixture of one hundred weight of clean sand, forty-four pounds of soda and barilla, and thirty pounds of pearl ashes.

**MASTIFF DOG**, or **BAND DOG**, (*canis villaticus* or *catenarius*), is a species of great size and strength, and a very loud barker. Manwood says, that it derives its name from *mase thefese*, being supposed to frighten away robbers by its tremendous voice. Great Britain was formerly so noted for its mastiffs, that the Roman emperors appointed an officer in this island, with the title of *Procurator Cynegii*, whose sole business was to breed, and transmit from hence to the amphitheatre, such as would prove equal to the combats of the place. Strabo, lib. iv. tells us, that the mastiffs of Britain were

trained for war, and used by the Gauls in their battles. See CANIS, MAMMALIA Index.

**MASTIGADOUR**, or **SLABBERING-BIT**, in the manege, a snaffle of iron, all smooth, and of a piece, guarded with paternosters, and composed of three halves of great rings, made into demi-ovals, of unequal bigness; the lesser being enclosed within the greater, which ought to be about half a foot high.

**MASULAPATAN**, a populous town of Asia in the East Indies, and on the coast of Coromandel, in the dominions of the Great Mogul. It carried on a great trade, and most nations in Europe had factories here; but the English have now left it, and even the Dutch themselves have not above a dozen people here to carry on the chintz trade. The inhabitants are Gentoos, who will not feed on any thing that has life; and they had a famous manufacture of chintz, which is greatly decayed since the English left off buying. The Great Mogul has a customhouse here; and the adjacent countries abound in corn, tobacco, and timber for building. It is seated on the west side of the bay of Bengal, 200 miles north of Fort St George. E. Long. 81. 25. N. Lat. 16. 30.

**MATACA**, or **MANTACA**, a commodious bay in America, on the north coast of the island of Cuba. Here the galleons usually come to take in fresh water in their return to Spain. It is 35 miles from the Havannah. W. Long. 85. 6. N. Lat. 25. 0.

**MATAMAN**, a country of Africa, bounded by Benguela on the north, by Monomotapa on the east, by Caffraria on the south, and by the Atlantic ocean on the west. There is no town in it, and the inhabitants live in miserable huts, it being a desert country, and but little visited by the Europeans.

**MATAN**, or **MACTAN**, an island of Asia in the East Indian sea, and one of the Philippines. The inhabitants have thrown off the yoke of Spain; and it was here that Magellan was killed in April 1521.

*Cape MATAPAN*, the most southern promontory of the Morea, between the gulf of Coran and that of Colo-China.

**MATARAM**, a large town of Asia, formerly the capital of an empire of that name in the island of Java. It is strong by situation, and is seated in a very fertile, pleasant, and populous country, surrounded with mountains. E. Long. 111. 25. S. Lat. 7. 55.

**MATARO**, a town of Spain, in Catalonia; seated on the coast of the Mediterranean, 15 miles north-east of Barcelona, and 35 south-west of Gironne. It is a small town, but industrious and well peopled; and the environs abound in vineyards, which produce wine much famed for its flavour. It likewise contains several manufactories, and is considered as one of the richest and most active towns in Catalonia. E. Long. 2. 35. N. Lat. 41. 30.

**MATCH**, a kind of rope slightly twisted, and prepared to retain fire for the uses of artillery, mines, fireworks, &c.

It is made of hempen-tow, spun on the wheel like cord, but very slack; and is composed of three twists, which are afterwards again covered with tow, so that the twists do not appear: lastly, it is boiled in the lees of old wines. This, when once lighted at the end, burns on gradually and regularly, without ever going

Mastiga-  
dour  
||  
Match.

out



Quick-  
Match  
||  
Mate.

out till the whole be consumed: the hardest and driest match is generally the best.

*Quick-Match.* See *Quick-Match.*

**MATCHING**, in the wine trade, the preparing vessels to preserve wines and other liquors, without their growing sour or vapid. The method of doing it is as follows: Melt brimstone in an iron ladle, and when thoroughly melted, dip into it slips of coarse linen cloth; take these out, and let them cool; this the wine-coopers call a *match*. Take one of these matches, set one end of it on fire, and put it into the bung-hole of a cask; stop it loosely, and thus suffer the match to burn nearly out; then drive in the bung tight, and set the cask aside for an hour to two. At the end of this time examine the cask, and you will find that the sulphur has communicated a violent pungent and suffocating scent to the cask, with a considerable degree of acidity, which is the gas and acid spirit of the sulphur. The cask may after this be filled with a small wine which has scarce done its fermentation; and bunging it down tight, it will be kept good, and will soon clarify: this is a common and very useful method; for many poor wines could scarce be kept potable even a few months without it.

**MATE of a SHIP of WAR**, an officer under the direction of the master, by whose choice he is generally appointed, to assist him in the several branches of his duty. Accordingly, he is to be particularly attentive to the navigation in his watch, &c. to keep the log regularly, and examine the line and glasses by which

the ship's course is measured, and to adjust the sails to the wind in the fore part of the ship. He is to have a diligent attention to the cables, seeing that they are well coiled and kept clean when laid in the tier, and sufficiently served when employed to ride the ship. Finally, he is to superintend and assist at the stowage of the hold, taking especial care that all the ballast and provisions are properly stowed therein.

**MATE of a Merchant Ship**, the officer who commands in the absence of the master thereof, and shares the duty with him at sea; being charged with every thing that regards the internal management of the ship, the directing her course, and the government of her crew.

The number of mates allowed to ships of war and merchantmen is always in proportion to the size of the vessel. Thus a first-rate man of war has six mates, and an East-Indiaman the same number; a frigate of 10 guns, and a small merchant ship, but only one mate in each; and the intermediate ships have a greater or smaller number, according to their several sizes, or to the services on which they are employed.

**DURA and PIA MATER**, the names given by anatomists to the two membranes which surround the brain. See ANATOMY, N<sup>o</sup> 129, 130.

**MATERA**, a considerable town of Italy, in the kingdom of Naples, and in the Terra d'Otranto, with a bishop's see, seated on the river Canapro. E. Long. 16. 43. N. Lat. 40. 51.

Mat:  
||  
Matera.

## MATERIA MEDICA AND PHARMACY.

### INTRODUCTION.

Definition  
of materia  
medica;

**T**HAT department of medical science which treats of the nature, effects, and uses of those remedies that are employed for the prevention or removal of disease is called **MATERIA MEDICA**. It comprises the *natural history* of the articles, or an account of those circumstances by which they may be distinguished, and of the means of procuring and preserving them; their *chemical history*, or an account of the changes which they undergo from the action of various reagents, the mode of analyzing them, of separating their most useful principles, and of ascertaining their purity; and their *medical history*, or an account of their sensible effects on the animal system both in the healthy and morbid state, with their application to the practice of medicine.

and of  
Pharmacy.

The art of collecting, and preserving the various substances employed in medicine, and of reducing them to those forms that are best suited to the various purposes for which they are exhibited, is called **PHARMACY**. This art is practised by the trading chemist and the apothecary; and at least the principles of it form a necessary part of education to every member of the medical profession.

In the present edition of our **ENCYCLOPÆDIA**, it is proposed to treat of these two subjects together, since

they are intimately connected, and when considered under the same treatise, will occupy much less room.

We shall divide this article into four parts; in the first of which we shall briefly treat of those articles that are employed to support life, or of diet; in the second we shall treat of remedies in general, and shall arrange them into classes according to their action on the animal economy; in the third we shall consider the methods of preparing them for exhibition, or shall lay down the general principles of pharmacy; and in the fourth we shall briefly notice each of the articles employed in medicine, whether simple or officinal, and mention the most important circumstances necessary to be known respecting them.

As the limits which have been assigned to this article are extremely confined, it cannot be expected that the subject will be treated at any great length. Contrary to usual practice, we shall dwell most on the general circumstances of materia medica and pharmacy, and shall be as brief on the individual articles, as is consistent with perspicuity and practical utility.

We shall not at present enter on a historical account of the writers on the materia medica and pharmacy. If we find room for such an account, we shall introduce it at the end of this article, where we conceive it would be most properly placed. It will be expected, however, that we should mention some of the most approved

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Arrangement  
ment.

4  
Writers on  
the materia  
medica.



<sup>1</sup> Introduction. proved works on these subjects, and this we shall here do very briefly.

<sup>5</sup> Cullen's treatise. As one of the principal modern writers on the materia medica, it will be sufficient to mention the name of Cullen. His work is still considered as classical, and is in the hands of every medical man. Whatever we may think of the reasoning and hypothesis which it contains, and however much we may be fatigued with the prolixity of some parts of the work, we shall always set a just value on the useful facts and practical remarks with which it abounds. It is to be regretted that Dr Cullen did not prepare a second edition of his materia medica before the infirmities of age had rendered him less qualified for the work, as in many respects the first edition is preferable to the second.

There are three works which Dr Cullen warmly recommended, and which he thought so excellent that he wished them to be in the hands of all his readers. These are Dr Lewis's "Experimental History of the Materia Medica," as published in 8vo by Dr Aikin; Bergius's "Materia Medica à regno Vegetabili;" and the "Apparatus Medicaminum" of Professor Murray of Gottingen.

<sup>6</sup> Lewis's experimental history. Soon after Dr Cullen published the second edition of his Materia Medica, a new edition of Lewis by Aikin appeared, superior to the former chiefly in containing the improvements made by the London college in their Pharmacopœia in 1788. Dr Lewis's work is still valuable for the facts which it contains relative to the natural history of the substances, and the action of several chemical agents on them; but from the late changes that have been made in chemical nomenclature, the language in which it is written has already become obsolete.

<sup>7</sup> Murray's Apparatus Medicaminum. Professor Murray had published but a small part of his "Apparatus Medicaminum," when the last edition of Cullen's Materia Medica appeared. He, however, lived to complete that part of his work which treats of vegetable substances, of which five volumes were published during his life, and a sixth after his death, by Dr Althof. In this last volume an account is given of columba root, angustura bark, myrrh, and several other medicines, which could not properly be introduced into the general arrangement, as the plants from which they are procured were not certainly known.

<sup>8</sup> Gmelin's continuation. A continuation of Murray's Apparatus Medicaminum in two volumes, containing an account of mineral substances, was published by Professor Gmelin in 1795. It is very good, but will scarcely now be consulted when the improved state of modern chemistry has given rise to the production of so many excellent works on the same subject.

<sup>9</sup> Monro's Medical and Pharmaceutical Chemistry. In 1788 Dr Donald Monro published a work on chemistry, pharmacy, and the materia medica, in three volumes 8vo, under the title of "Medical and Pharmaceutical Chemistry." At the time of its publication, it was the best work of the kind in our language, and it is still very valuable, though the late improvements in chemistry have in some measure diminished the utility of the chemical part of the work.

About ten years ago was published the first volume

of a small work entitled, A Practical Synopsis of the Materia Alimentaria and Materia Medica, by an anonymous author, who had also some time before published the *Theaurus Medicaminum*. After an interval of ten years this synopsis is at length completed by the publication of the second part of the second volume; and we consider it as one of the most useful works on the subjects on which it treats. Both it and the *Theaurus* abound with excellent practical observations, but the arrangement adopted will in some respects be considered as antiquated. Of this more hereafter. As these two works are intimately connected, it is to be wished, that in a subsequent edition they should be united into one, in which form they would make two moderate 8vo volumes.

<sup>11</sup> Murray's Elements. In 1804 Mr Murray, lecturer on chemistry and materia medica in Edinburgh, published his Elements of Materia Medica and Pharmacy, in two volumes, of which the second is chiefly a translation of the new edition of the Edinburgh Pharmacopœia, with some useful remarks. In his first volume, Mr Murray has made some ingenious observations on the general action of medicines, which, independently of the theory he adopts, we consider among the most valuable parts of his work.

<sup>12</sup> Duncan's New Dispensatory. Few works have had a more extensive circulation than the Edinburgh New Dispensatory, a work which was founded on the New Dispensatory of Dr Lewis published in 1753. Of this dispensatory several successive editions were published under the direction of Dr Webster, Dr Duncan, and Dr Rotheram, till in 1803 a new work, under the same title, was published by Dr Andrew Duncan, junior. Of this improved Dispensatory we need say little; the rapid sale of three large editions, and the call which has been made for a fourth, sufficiently evince the opinion which the public has formed of its utility and execution. It is perhaps the most complete guide to the practical apothecary which we have in any language.

<sup>13</sup> Kirby's tables. In 1805 was published a small volume containing a tabular view of the Materia Medica by Dr Kirby. This little work is intended as a manual to the young practitioner, and comprehends all the articles of the materia medica that are received into the Pharmacopœias of Edinburgh, London, and Dublin, arranged into classes; and the mode of prescribing them is illustrated by appropriate formulæ. Owing to the indifferent state of the author's health when this volume was printed, it is disfigured by numerous typographical errors; but these are in general only literal; and such as might mislead the practitioner are corrected in the table of *Errata*.

<sup>14</sup> Late foreign works. Among the best foreign publications on materia medica and pharmacy we may enumerate

- Arnemann's Therapeia Generalis;
- Mirabelli's Apparatus Medicaminum;
- Bouillon Lagrange Manual de Pharmaciens;
- Swediaur's Materia Medica;
- Swediaur's Pharmacopœia; and the foreign Pharmacopœias referred to in Duncan's Dispensatory.



## PART I. DIETETICS.

15  
Dietetics.

THE subject of diet and regimen was much more attended to by the ancient physicians than it has been by those of modern times. In the writings of Hippocrates and Celsus we find some excellent remarks both on diet in general and on the particular diet that is suited to sick people, and for many centuries these authors formed our only guides. Of late indeed, this necessary branch of the healing art has been very successfully cultivated, and several valuable works have been published on the subject. Of these we shall here enumerate a few of the more respectable.

16  
Writers on diet.

Cullen's *Materia Medica*, vol. i.  
Plenk's *Bromatologia*;  
*Synopsis of Materia Alimentaria and Materia Medica*, vol. i.  
Fordyce on *Digestion*;  
Nisbet on *Diet*;  
Halle's *Articles on Diet in Encyclopédie Methodique*;  
*Dictionary of Medicine*;  
Beddoes's *Hygeia*;  
Sir John Sinclair's *Code of Health and Longevity*.

In the brief sketch that we can here give of dietetics, we shall first treat of food in general, and then mention most of the animal and vegetable substances that have been or may be employed to support life.

17  
Of food in general.

All food is either of an animal or vegetable origin. The former is, no doubt, more allied to our nature, and most easily assimilated to its nourishment; the latter, though digested with more difficulty, is the foundation of the former, as vegetables are the nourishment of animals, and all food is therefore properly derived from this source. In many respects, however, vegetable and animal food differ; and this difference it is proper to remark, according to the various effects it displays on different parts of the human system. In the choice of vegetable food, a much nicer selection is made by man than by any other animal; and his choice is chiefly confined to those of a *mild, bland nature*, and of an agreeable taste. When any other substances are selected, it is entirely for the purpose of condiment or medicine. The first difference to be observed between animal and vegetable food, is with respect to their effects on the stomach and bowels. In the stomach, vegetable food always displays a tendency to acescency, while animal food, on the contrary, tends towards putrefaction. Hence the former is apt to produce symptoms of uneasiness, while the latter in moderate quantity is almost never felt. In the same way, facility of solution belongs to vegetable food; while from greater firmness of texture, and viscosity, animal food is apt to oppress. Nor does the latter, from its oily texture, always mix easily in the stomach with other matters; while vegetables unite readily, but frequently continue long on the stomach for want of a proper stimulus. Similar effects are produced in the bowels by these different kinds of food, as well as in the stomach. The acescency of vegetable food is at all times apt to induce looseness; while the same effect is never known to arise from animal food, except in a

very advanced state of putrefaction. On the contrary, the body is generally kept by it in a regular state; while vegetables, from the lesser portion of them going into chyle, produce a larger proportion of feculent matter, and lie longer in the bowels from their inactive nature before being expelled.

The nourishment conveyed by both kinds of food is much the same; but the animal product is in greater quantity, and more easily digested, while the vegetable retains its more watery nature, with a portion of unassimilating saline matter, which though introduced, is again expelled by some of the excretions. The animal blood is then richer, more elaborated and stimulating, and excites a stronger action of the system than that produced from vegetables. Both products, however, equally take on an alkalescent nature in the circulation; for the acescency of the vegetable is confined entirely to its action on the stomach and bowels. Thus, from animal food a greater supply of nourishment is received for the wants of the system, depending on its greater quantity of oil, and its longer retention in the body than vegetable food. Agreeably to these different effects of animal and vegetable food, it is farther to be observed, that the latter is more quickly perspirable than the former. Hence the tendency to obesity, which arises from animal food; while part of the vegetable aliment is very quickly carried off by urine.

The combination of a vegetable and animal diet, is certainly best suited to preserve a proper state of health and strength. There are few who subsist entirely upon vegetables, and of these few, the constitutions are generally feeble, sickly, and weak, and they are the constant victims to complaints of the stomach and bowels. Where this method of life is at all practised, it is confined to hot climates, where vegetable diet may no doubt be carried to a greater extent without injury. Some nations also have gone to the other extreme, and live entirely on animal food; and in a very cold atmosphere, this may be indulged beyond what would otherwise be safe for the health of the body, so that a mixture of vegetable and animal nourishment seems best fitted for the health of man. But the proportion in which these ought to be used, is a point equally necessary to be enquired into. The benefits that attend animal food are clearly the giving a superior strength and vigour; but, in proportion as it carries this to excess, it exposes the body to dangerous consequences, and to the production of various diseases. Hence those who exceed in the animal, or what we may term the athletic diet, are soon worn out, and fall the victims of the over proportion of strength which such living bestows.

The advantages again of vegetable food, are mostly of the passive kind, and though it is difficult of assimilation, yet under certain circumstances, a tolerable degree of strength and vigour may be acquired from it. It is more favourable for the appetite than animal food, and little injury can arise from too much repletion with it. It has many advantages over animal food, as it introduces



Dietetics.

Dietetics.

roduces no improper acrimony into the system, and counteracts the baneful effects of animal diet. It is to this preference of vegetable food that the French owe their freedom from disease in a greater degree than the English: and the best rule to secure health, perhaps, is to confine infancy and youth mostly to a vegetable diet; manhood, and the decay of life, to animal food; while near the end of life, the vegetable system should again be returned to. But, whatever kind of diet we adopt, a variety in the form of our food, as well as the nature of it, should be attended to it. Thus the constant use of solid nourishment, however wholesome and nutritious, by giving the stomach more to do than is necessary, must be attended with hurtful consequences. In the same way a perseverance in the liquid aliment, however fit by its qualities for conveying chyle into the system, could not fail to prove an improper diet, by depriving the stomach of that necessary stimulus from its form, which solid food conveys. A mixture, therefore, of solid and fluid nourishment is absolutely necessary, whatever the nature of that nourishment may be, and this proportion must be regulated by the different situations of different individuals. A man who is subjected to much bodily exertion, requires certainly the proportion of solid food to exceed, and likewise to be taken in the most permanent and nutritive state. A man again accustomed to little bodily labour, and subjected to the ease and inactivity of a sedentary life, should reverse this plan, and the proportion of liquid should be increased. In the use of the different kinds of food, the same regulations are proper. Where, along with a sedentary life, the stomach rejects much vegetable food, and a tendency to acidity renders its use improper, the bad consequences of an excess of animal diet must be corrected by giving it in the most soluble and diluted form. Thus the use of soups and broths becomes highly proper, as giving the sufficient stimulus of animal food to the stomach, and at the same time presenting it in a form by which a considerable part quickly passes off, and the excess of nourishment which constant animal food would produce is greatly counteracted. It is to this cause that we may attribute the little injury which animal food is known to produce in Scotland, and also in France, where soups are much used.

21  
Proper  
quantity of  
food.

With respect to the quantity of food to be actually taken, this must be regulated much by the appetite and the supply required. The appetite is the great indication of health; and where the stomach is in a healthy state, it relishes almost every kind of nourishment that is presented. This being the case, we are entirely to be regulated in the quantity taken in by the appetite. Satiety is the natural consequence of repletion, and before this takes place, the stomach itself gives the alarm.

Among popular writers it has been a common axiom that a small quantity of food is most easily digested, and that we should rise from table with an appetite. This idea proceeds entirely from the opinion that digestion is effected by the muscular power of the stomach. But it is a truth sufficiently established that this is not the case. It depends entirely on the fluid of the stomach, or gastric secretion, and is performed by the application of this fluid equally well out of the body as within the organ. Indeed we may suppose that a consider-

able quantity of food, when taken, by producing a greater stimulus or irritation of the stomach, will increase the gastric fluid, and thus accelerate the process of digestion. At the same time it must be observed that there is in infancy a proper foundation for this restriction. The gastric fluid in children is more active, and their stomach yields more readily to distention; and the appetite, therefore, will continue longer before the sense of satiety takes place: but even here, as the diet is mostly of a diluted kind, and soon passes off, we believe that more has been attributed to the effects of repletion, as the cause of disease in children, than what it deserves.

The proper rule, in all cases, is that the body should be sufficiently nourished, whatever the nature or the quantity of the nourishment employed may be, and this is best determined by the apparent state of the body, and what is again lost by it, or the quantity of its different discharges. The body also, we may observe, is at all times under the influence of habit, and where it is accustomed to be circumscribed, it is often amazing to find what small quantities of nourishment will suffice, and even health be preserved. Of this we have a number of remarkable instances brought forward by medical writers. Nor is this confined solely to man; the inferior animals show that their bodies can accommodate themselves to similar circumstances. This being the case, the constitution of man is limited in this respect less, even in civilized life, than what has been alleged. The chief point in health is to guard against extremes; for a uniform mode of life, even where errors are conspicuous, is always less dangerous than sudden excess, either of one kind or another.

The manner of taking food also requires attention. In all solid nourishment a proper chewing should take place; this is a preparatory and necessary step to the action of the fluid in the stomach; but this chewing should not be carried, as some have advised, too far. Something should be left for the stomach to do, and this organ will be found improved by exercise and by increasing its active powers, as well as any other part of the body. Hence substances rather of difficult digestion may be at times properly presented to it.

In his choice of food man is not circumscribed like the other animals. Its respective salubrity or perniciousness he can in general judge of only by its taste. Hence, that his taste may be as little deceived as possible, most nourishing substances, we observe, are of a bland, mild nature, and contain nothing offensive to this organ. Hence too there is a certain pleasure conjoined with the gratification of appetite, which is meant both as an incentive to our taking nourishment, and also to direct us in the selection of it.

From the constitution, however, of man, experience shows that any nourishment, however unfit, may be assimilated by habit, and that wholesome and unwholesome are often merely relative terms, regulated by the existing circumstances in which individuals are placed.

The desire for solid food is much seldomer carried to excess than that for fluids. Both, where they occur, are not the effect of a natural appetite, but rather of that artificial one which is created by the use of stimulants increasing the relish of food to the palate, or its stimulant effect on the stomach. This excess be-

22

Body should  
be suffici-  
ently-nou-  
rished.

23

Manner of  
taking food.



**Diætics.** comes increased by indulgence; and a habit, of course, comes to prevail, which distends the stomach, relaxes its tone, and destroys its elasticity; in consequence of which disorders of this organ arise, and a general fulness and corpulency in the whole system take place.

The manner of taking food, as well as the quantity and quality, requires some attention. All extremes in taking food, should be carefully avoided; it should pass into the stomach in a slow and regular manner, blended by the process of chewing with a sufficient quantity of saliva to promote its dissolution in the stomach. If hurried over without attention to this, the difficulty of solution is increased, and the stomach is suddenly distended, and satiety produced before it is filled. The meal, therefore, becomes both deficient in quantity, and the food, from the digestive organs having more to do, remains longer on the stomach than is either necessary or proper\*.

\* See *Nis-*  
*et on Diet.*

For more on this subject, see the articles ALIMENT, FOOD, and DRINK.

After these general observations on diet, we shall take a brief survey of the principal articles employed as food, under the general heads of SOLID FOOD, DRINK, and CONDIMENTS.

## A. SOLID FOOD.

### I. FROM THE ANIMAL KINGDOM.

#### CLASS I. MAMMALIA. Order I. PRIMATES.

<sup>24</sup> Food deriv-  
ed from  
quadrupeds. THERE are few animals of this order employed as food. In some countries, however, several species of the genus simia or ape, are eaten, particularly

<sup>25</sup> Apes. Simia inuus, the *Barbary ape*. S. Beelzebul, the *preacher monkey*. S. Paniscus, the *four-fingered monkey*.

<sup>26</sup> Bats. Some species of the bat tribe are occasionally eaten by the natives of warm climates, especially *Vespertilio vampyrus*, the *vampyre bat*.

#### Order 2. BRUTA.

Several tribes of this order afford nourishment to uncivilized nations.

<sup>27</sup> Ant-eater. The great ant-eater (*myrmecophaga jubata*) is frequently eaten by the American Indians; but its flesh has a strong and disagreeable flavour.

<sup>28</sup> Armadillo. Most species of *dasytus* or *armadillo* form an article of diet among the Indians.

<sup>29</sup> Rhinoceros. The flesh of the rhinoceros bicornis, or *two-horned rhinoceros*, is eaten in Abyssinia; but its flesh is very finewy.

<sup>30</sup> Elephant. The flesh of the elephant is often eaten, both by the Abyssinians and Hottentots. See ELEPHANT, MAMMALIA Index.

Several species of trichecus, or *walrus*, are eatable, especially

<sup>31</sup> Walrus. *Trichecus rosmarus*, or *arctic walrus*.

#### Order 3. FERÆ.

From this order mankind have long derived part of their nourishment, especially in the earlier periods of society.

<sup>32</sup> Seal. The flesh of the common seal (*phoca vitulina*) was,

a few centuries ago, served up at the tables of the great in this country; and it still forms the principal subsistence of the Greenlanders, Icelanders, and Kamtschadales. **Diætics.**

The brown or black bear (*ursus arctos*) is eaten by the common people in Norway, Russia, and Poland. It is difficult of digestion, and is generally salted and dried before being used. <sup>33</sup> Bear.

Of the dog tribe few species have been employed for the food of man, though the common dog is greedily eaten by the inhabitants of the South-sea islands, and is sometimes used as food in more civilized societies. See DOG, MAMMALIA Index. <sup>34</sup> Dog.

Of the cat tribe, the flesh of the lion is considered excellent food by several nations of Africa, and Kollen prefers it to most other animal food. <sup>35</sup> Lion.

The common otter (*lutra vulgaris*) is eaten in several Roman Catholic countries, and considered as nearly allied to fish. See OTTER, MAMMALIA Index. <sup>36</sup> Otter.

The young of the sea otter (*lutra marina*) are said to be delicate eating, not easily to be distinguished from lamb.

Several species of *didelphis* or opossum are considered by the natives of South America as equally good food with the flesh of the hare or rabbit, especially <sup>37</sup> Opossum.

*Didelphis Virginiana*, the *Virginian opossum*. The kangaroo (*macropus major*) forms a chief part of the animal food used by the natives of New Holland; but the flesh is very coarse. <sup>38</sup> Kangaroo.

The common hedgehog (*erinaceus europæus*) is occasionally used as food; and its flesh is said to be extremely delicate. <sup>39</sup> Hedgehog.

#### Order 4. GLIRES.

The common porcupine (*hystrix cristata*) is eaten in Sicily and Malta, and is frequently introduced to the politest tables at the Cape of Good Hope. <sup>40</sup> Porcupine.

Several species of *cavia* are used as food in Guiana, Brazil, and other parts of South America, especially <sup>41</sup> Cavia. *Cavia cobaya*, the *Guinea pig*. *C. paca*, the *spotted cavy*. *C. aguti*, the *long-nosed cavy*, and *C. apera*, the *rock cavy*.

The flesh of the beaver (*castor fiber*) is employed in America, and is said to be good eating. It is preserved by drying it in the smoke. <sup>42</sup> Beaver.

The alpine marmot (*arctomys marmota*) affords nourishment to the poorer inhabitants of the Tyrol, Savoy, and other parts of the Alps; and, besides this, three other species are eatable, viz. <sup>43</sup> Marmot.

*Arctomys monax*, the *Maryland marmot*. *A. bobak*, *bobak*; and *A. citellus*, the *casan*, or *earless marmot*.

Several species of *sciurus*, or *squirrel*, may be eaten, especially the common squirrel (*sciurus vulgaris*), which is much used in Sweden and Norway, and its flesh is said to resemble that of a barn-door fowl. <sup>44</sup> Squirrel.

The common jerboa (*dipus jaculus*) is eaten by the Arabs, who esteem its flesh among their greatest delicacies. <sup>45</sup> Jerboa.

Most species of *lepus*, or the *hare* tribe, are used as common food, especially <sup>46</sup> Hare and rabbit.

*Lepus timidus*, the *common hare*, and *L. cuniculus*, the *rabbit*.

Of these the flesh of the rabbit is softer and more digestible than that of the hare; but it is not so nourishing.



**Dietetics.** ing. Wild rabbits are both more digestible and more palatable than such as are domesticated.

## Order 5. PECORA.

It is from this order that the principal part of animal food, in civilized countries, is derived. Almost all the animals contained in this order form excellent food.

<sup>47</sup> Camelus. Some species of *camelus*, or the camel tribe, are eaten, especially

*Camelus dromedarius, the Arabian camel.* *C. glama, the glama*, whose flesh is said to resemble mutton.

Of the genus *cervus*, the following species are most used, viz.

<sup>48</sup> Elk. *Cervus alces, the elk*, eaten in Norway, Lapland, and Sweden, where its flesh is much esteemed. It is very nourishing, but lies long on the stomach.

<sup>49</sup> Stag. *C. elaphus, the common stag.* The flesh of this animal, when full grown, is well known under the name of *venison*, and is very digestible, wholesome, and nourishing. The animal should not be killed till he is above four years old, and the flesh is fattest and best flavoured in the month of August.

<sup>50</sup> Rein deer. *C. tarandus, the rein deer.* The flesh of this species forms the principal nourishment of the Laplanders; the tongues are excellent when salted and smoked, and the milk is sweet and nourishing.

<sup>51</sup> Fallow deer. *C. dama, the fallow-deer.* The flesh of this species is a variety of venison, and nearly resembles that of the stag. The buck is preferred.

<sup>52</sup> Roe-buck. *C. capreolus, the roebuck.* The flesh of the roebuck is considered as inferior to that of the last species.

Of the genus antelope, almost all the species afford excellent food; but the following is most generally employed, viz.

<sup>53</sup> Chamois. *Antelope rupicapra, the chamois.*

The flesh of the young ibex (*capra ibex*) is said to be excellent food.

<sup>54</sup> Goat. Of the common goat (*capra hircus*) only the young are employed as food; and a roasted kid is a very common dish in America and the West Indies. Of goat's milk we shall speak hereafter.

<sup>55</sup> Sheep. *Ovis aries, the common sheep.* Mutton is well known to be a highly nutritious and wholesome meat. It is perhaps more universally used than any other animal food. *Tup-mutton* has such a strong smell and disagreeable taste, and is, besides, so exceedingly tough and difficult of digestion, that it is never eaten but by those who cannot afford to purchase mutton of a better quality. *Ewe-mutton*, if it be more than between two and three years old, is likewise tough and coarse. *Wedder-mutton*, or the flesh of the castrated animal, is most esteemed, and is by far the sweetest and most digestible. *Lamb* being less heating and less dense, is better suited to weak stomachs; but this applies only to the flesh of lambs that have not been robbed of their blood by repeated bleedings, or reared by the hand with milk adulterated with chalk, in order to make the meat appear white. Such practices to render the food pleasing to the eye, at the expence of its alimentary properties, cannot be too much reprobated.

<sup>56</sup> Ox. *Bos taurus, the common bull and cow.* The flesh of the bull has a strong disagreeable smell, and is dry, tough, and difficult of solution in the stomach. Bull-beef is rarely eaten. But the flesh of the ox, or ca-

strated animal, called *ox-beef*, is a highly nourishing and wholesome food, readily digested by healthy persons, and constituting a principal part of the common diet of the inhabitants of this and many other countries. It is the most strengthening of all kinds of animal food. Cow-beef is not so tender nor so nourishing, nor so digestible as ox-beef. Veal is tender and nourishing; but not so easily digested, nor so well suited to weak stomachs, as is commonly imagined. It is matter of just complaint, that the same injurious methods are practised in the rearing and management of calves, as have been already noticed under the article LAMB. By such treatment the quality of the flesh is much depraved. What is called *beef-tea*, is prepared by putting a pound of the lean part of beef, cut into very thin slices into a quart of water, and boiling it over a quick fire about five minutes, taking off the scum. The liquor is afterwards poured off clear for use. This makes a light and pleasant article of diet for weak and delicate people. On some occasions spices may be advantageously added to it. Gravy soup is very nourishing, but is heavy and heating. It is used as a clyster, as well as taken into the stomach. Calves-foot jelly is highly nutritious and demulcent.

Besides the common ox, the following species are employed as food, viz.

*Bos americanus, the American bison.* *B. moschatus, the musk bull.* *B. bubalus, the buffalo.* *B. caffer, the cape ox,* and *B. grunniens, the yak.*

## Order 6. BELLUÆ.

The flesh of the horse may be eaten, but is very <sup>57</sup> coarse. Mare's milk is often used medicinally, but is considered as inferior to that of the ass.

<sup>58</sup> Asses milk. Asses milk is light, and well suited to weak stomachs. It is commonly employed in consumptive cases; and Hoffman recommends it in gout, rheumatism, jaundice, debility of the bowels, disorders of the urinary passages, and in fluor albus.

<sup>59</sup> Tapir. The flesh of the tapir (*tapir americanus*) is much esteemed by the inhabitants of South America, but is inferior to our beef.

<sup>60</sup> Hog. The flesh of the wild boar is dense, but sufficiently tender, very nourishing, and more savoury than that of the domestic hog. But as the general properties of both are the same, they will be here noticed together. The flesh of the wild boar is in season in the month of October. The head is esteemed the finest part. The flesh of the young animal is reckoned a great delicacy. *The common or domestic boar.* *The sow.* The flesh of the sow is strong, and makes bad bacon. It is the flesh of the castrated animal that is in common use, and that is known by the name of *pork*. On account of the fat or lard with which it abounds, it is not very easily digested. It is a very savoury food, and affords a strong nourishment, suited to persons who lead an active or laborious life. The too frequent and long continued use of this meat favours obesity, produces foulness of the stomach and bowels, and occasions disorders of the skin. The flesh of the *sucking pig* is reckoned a great delicacy, is very nourishing; but by reason of the thick and slimy juice with which it abounds, it is not very readily dissolved in the stomach, and therefore is by no means a proper food for weak and sickly persons. Bacon is a coarse and heavy, but nutritive



**Dietetics.** nutritive food, only fit to be taken in considerable quantity by robust and labouring people. When it constitutes a principal part of the daily diet, it brings on disorders similar to those which arise from the immoderate use of pork. In consequence of the fat or lard with which it abounds, the flesh of the swine tribe is more or less laxative. Upon the whole, it may be said of pork, that the occasional and sparing use of it is sufficiently salutary; but that it cannot be made a principal part of the daily diet, without producing disorder in many constitutions, and particularly in those who are of a melancholic temperament, and lead a sedentary life.

The flesh of the different species of this genus is edible, especially that of the *sus tajassu* and *S. babyrussa*.

61  
Food from  
birds.

**CLASS II. BIRDS. Order 2. PICÆ.**

62  
Picæ.

Of this order only two species are generally used as food.

*Corvus frugilegus*, the *rook*. The young of this bird is very similar to the pigeon, but is rather inferior in flavour and digestibility.

*P. viridis*, the *green woodpecker*. The flesh of this and some other species is palatable, but of difficult solution.

63  
Anseres.

**Order 3. ANSERES.**

Of this order the principal species that are eaten belong to the genus *anas*, of which all the species may be used for food; but the following are most generally employed, viz. *anas cygnus*, the *wild swan*. *A. olor*, the *tame swan*. *A. anser*, the *goose*. *A. bernicla*, the *brent goose*. *A. moschata*, the *Muscovy duck*. *A. penelope*, *wigeon*. *A. ferina*, *pochard*. *A. crecca*, *teal*. *A. boschas*, *wild duck*. *A. domestica*, the *tame or common duck*.

*Alca arctica*, *puffin*. *A. tarda*, the *razor-bill*. *A. cirrhata*, the *tufted auk*.

*Pelicanus bassanus*, the *soland goose*.

*Larus marinus*, the *black-backed gull*.

Of these the swan, the goose, the wigeon, the teal, the wild and tame duck, are the most digestible; the barnacle, the puffin, the soland goose, and the black-backed gull, are very fat, heavy, and have generally a filthy taste.

64  
Grallæ.

**Order 4. GRALLÆ.**

Of this order most of the genera furnish very good and savoury food. The following are most commonly used, viz.

*Scolopax rusticola*, the *woodcock*. *S. gallinago*, the *snipe*. *S. gallinula*, the *jack snipe*. *S. glottis*, the *great plover*, or *green-sbank*. *S. tetanus*, the *spotted snipe*. *S. limosa*, the *stone plover*. *S. lapponica*, the *red godwit*.

*Tringa pugnax*, the *ruff* and *reeve*. *T. vanellus*, the *lapwing* or *bastard plover*. *T. cinchus*, the *purre*. *T. squatarra*, the *gray plover*, or *sandpiper*.

*Charadrius marinellus*, the *dotterel*. *C. pluvialis*, the *green plover*. *C. cædionemus*, the *thick-kneed bustard*. *C. hemantopus*, the *long-legged plover*.

*Fulica fusca*, the *brown gallinule*. *F. chloropus*, the

*common water-hen*. *F. porphyrio*, the *purple water-hen*.

**Dietetics.**

**Order 5. GALLINÆ.**

65  
Gallinæ.

This order furnishes the principal part of the food which we derive from the class of birds. The following species afford excellent nourishment, viz.

*Pavo cristatus*, the *peacock*.

*Meleagris gallipavo*, the *turkey*.

*Penelope cristata*, the *quhan*.

*Crax alector*, the *crested curassow*.

*Phasianus gallus*, the *common fowl*. *Ph. colchicus*, *common pheasant*.

*Numida meleagris*, the *Guinea hen*.

*Tetrao urogallus*, the *wood grouse*. *T. tetrix*, the *black cock* or *black game*. *T. lagopus*, *red game*. *T. perdix*, the *common partridge*. *T. coturnix*, the *quail*.

66  
Passeres.

**Order 6. PASSERES.**

The following species of this order may be employed as food, viz.

*Columba domestica*, the *common pigeon*, and *C. palumbus*, the *ring dove*.

*Alauda*, the *lark*. All the species.

*Turdus viscivorus*, the *mistle thrush*. *T. pilaris*, the *fieldfare*. *T. merula*, the *blackbird*.

*Loxia curvirostra*, the *sheldapple*, or *crossbill*. *L. cochohraustes*, the *grof-beak* or *hawfinch*. *L. chloris*, the *green finch*.

*Emberiza nivalis*, the *snow bunting*. *E. miliaria*, the *bunting*. *E. hortulana*. *E. citrinella*, or *yellow hammer*.

*Fringilla celebs*, the *chaffinch*. *F. montifringilla*, the *brambling*, or *bramble-finch*. *F. domestica*, the *house sparrow*. *F. montana*, the *tree sparrow*.

*Motacilla modularis*, the *hedge sparrow*. *M. ficedula*, the *epicurean warbler*. *M. œnanthe*, the *wheat-ear*. *M. rubitra*, the *whin chat*. *M. rubicula*, the *stonechatter*. *M. phœnicurus*, the *redstart*. *M. erithalus*, the *redtail*.

*Hirundo esculenta*, the *esculent swallow*.

After this enumeration of birds, we must say something respecting the nutritious properties of eggs.

It is probable that the eggs of all the birds which we have mentioned, and perhaps of most others, might be employed as food; but custom and convenience have given the preference to those of the common hen, the guinea hen, and the duck. The fluid contents of an egg consist of the white and the yolk. The former very much resembles the lymph of the blood, or the coagulable part of milk. The latter, viz. the yolk, is an animal mucilage, composed of oil, coagulable lymph and water. It is miscible with cold water, so as to form an emulsion. The oil is separable from the yolk, boiled till it becomes hard, by means of pressure.\*

The eggs of all granivorous birds, and especially of the domestic fowl, yield a mild demulcent and strengthening aliment, well suited to consumptive persons, and such as are exhausted by immoderate evacuations. Raw eggs are gently laxative, and are found to be serviceable in cases of jaundice and obstructed liver. A nutritive restorative drink is prepared by rubbing the yolks of two or three eggs, and a little white sugar, with a pint

\* See *Chemistry*.



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pint or two of cold water, adding to it afterwards a glass of Rhenish or any other light wine, and a little lemon juice, to give it a flavour. This egg-emulsion without the wine, is a good remedy in coughs, hoarsenesses, spitting of blood, costiveness, &c.

Both the white and yolk of eggs are very indigestible when boiled to hardness. Eggs should be subjected to as little of the art of cookery as possible. The lightest as well as the simplest mode of preparing them for the table, is to boil them only as long as is necessary to coagulate slightly the greatest part of the white, without depriving the yolk of its fluidity. This is what is called poaching them; and in this way they sit well upon most stomachs.

68  
Food from  
reptiles.

## CLASS III. AMPHIBIA. Order 1. REPTILES.

This class furnishes but few articles of food, and of these the following are the most usually employed, viz. Testudo mydas, *the green turtle*. T. ferox. T. graeca, *the land turtle*.

Rana esculenta, *the edible frog, or green water-frog*. Lacerta agilis, *common green lizard*. L. scincus, *the scink*.

69  
From fer-  
pents.

## Order 2. SERPENTS.

Coluber viper, *the viper*. C. perus, *the adder*.

Of these the turtle is well known as a most nourishing and palatable food. The esculent frog, though not very nutritious, tastes much like chicken; the viper and adder are chiefly used in soups, which are considered as great restoratives.

70  
Food from  
fishes.

## CLASS IV. FISHES.

It is probable that almost all the different species of fish might be employed as food, but the following are chiefly eaten, viz.

71  
Apodes.

## Order 1. APODES.

Muraena anguilla, *the common eel*. M. conger, *the conger eel*. Ammodytes tobianus, *the sand lance, or sand eel*.

72  
Jugulares.

## Order 2. JUGULARES.

Callyonimus lyra, *the gemmous dragonet*. C. dracunculus, *the fordid dragonet*.

Trachinus draco, *the weever*.

Gadus aeglefinus, *the haddock*. G. catlarias, *the torfk*, G. morrhua, *the cod-fish*. G. barbatus, *the pont*. G. merlangus, *the whiting*. G. pollachius, *the pollack*. G. molva, *the ling*. G. lota, *the burbot*.

73  
Thoracici.

## Order 3. THORACICI.

Zeus faber, *the dory*.

Pleuronectes hippoglossus, *the holibut*. P. platessa, *the plaife*. P. flesus, *the flounder*. P. limanda, *the dab*. P. solea, *the sole*. P. maximus, *the turbot*.

Chatodon rostratus, *the jaculator*. C. imperator, *the emperor of japan*.

Sparus mæna,

Perca fluviatilis, *the perch*.

Scomber, *the mackerel*.

Mullus barbatus, *the red surmullet*. M. surmulletus, *the striped surmullet*.

Trigla lyra, *the piper*.

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74  
Abdomi-  
nals.

## Order 4. ABDOMINALES.

Cobitis barbetula, *the loach, or groundling*.

Salmo falar, *the salmon*. S. trutta, *the sea trout*. S. fario, *the trout*. S. alpinus, *the charr*. S. falvelinus, *the salmon trout*. S. umbla. S. eperlanus, *the smelt*. S. albula, *the whiting*. S. thymallus, *the grayling*.

Eloz lucius, *the pike*.

Mugil cephalus, *the mullet*.

Clupea harengus, *the herring*. C. sprattus, *the sprat*. C. alofa, *the shad*. C. encrasicolus, *the anchovy*.

Cyprinus barbus, *the barbel*. C. carpio, *the carp*.

C. gobio, *the gudgeon*. C. tinca, *the tench*. C. cephalus, *the chub*. C. leuciscus, *the dace*. C. rutilus, *the roach*. C. erythrophthalmus, *the rud*. C. alburnus, *the bleak*; and C. brama, *the bream*.

75  
Chondrop-  
terygii.

## Order 6. CHONDROPTERYGII.

Accipenser sturio, *the sturgeon*. A. ruthenus, *the starlet*. A. huso, *the isinglass fish*.

Raia batis, *the skate*.

Petromyzon marinus, *the lamprey*. P. fluviatilis, *the lesser lamprey*. P. branchialis, *the lampern, or pride*.

76  
Of fish in  
general.

The wholesomeness of fish in diet has been much disputed. According to some, it is the most delicious food of any; and according to others, it is without strength or substance. It is certainly not adapted to be the sole diet of the laborious class, but it makes an excellent addition to vegetable food; for instance, with potatoes, or other roots, what can be more acceptable than a salted or smoked herring, to give a relish to such insipid diet? It is said, indeed, that one barrel of salted herrings will, in this way, go as far as three barrels of salted beef. Fresh fish is certainly well calculated for sedentary people, and those who reside in towns; and at all events, it is fortunate to have such a resource for food in a populous country, to be made use of when any exigency requires such aid.

The texture of fish, in general, is more tender than that of flesh. They have nothing of a fibrous structure, like flesh; of course, they are more easily digested than meat, especially such as are not of a viscid nature.

It is a singular circumstance regarding fish, that, though we require vegetables with our meat, we hardly ever take them with fish. Cullen says, that by way of experiment he has taken apples along with fish, but found them to disturb digestion.

The objections to fish, however, are numerous. The nourishment derived from them it is said, is incomplete; not so stimulating, nor so congenial to the nature of man, as either birds or quadrupeds; some classes of them also, as shell-fish, salmon, &c. are more indigestible than meat; and fish, in general, has a stronger tendency to putrefaction than meat. But the faults of fish are somewhat corrected by the manner in which they are commonly eaten. In a fresh state, fauces and pickles of an acid nature are employed with them, and when dried, the action of the stomach is promoted by salt and spices. Fish, compared with flesh, is less nourishing; and the more viscid sorts hard-

er



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\* Code of Health and Longevity, vol. i. p. 407.

## CLASS V. INSECTS.

77  
Food from insects.

Of insects properly so called, none are used in substance as food, except various species of cancer, viz.

Cancer mœnas, *the common crab*. C. pagurus, *the black-clawed crab*. C. gammarus, *the lobster*. C. affecus, *the craw fish*. C. ferratus, *the prawn*. C. crangon, *the shrimp*, and C. squalla, *the white shrimp*.

Under this class we may rank *honey*, the produce of the bee, which in its general elementary properties agrees with sugar, to be afterwards noticed. It is, however, rather more heating, and will not agree with many stomachs. It is best eaten from the comb, as the wax seems to correct its unpleasant effects.

78  
Food from worms.

## CLASS VI. VERMES. Order 2. MOLLUSCA.

*The sepia sepiola*, and *the echinus esculentus*, are the only edible genera of this order of worms, and even these are a coarse and by no means a nourishing food.

## Order 3. TESTACEA.

Cardium edule, *the common cockle*.

Ostrea edulis, *the common oyster*.

Mytilus edulis, *the eatable muscle*.

Helix pomatia, *the common snail*.

Of these, the oyster and the snail are the most wholesome and digestible.

As occupying a middle rank between animal and vegetable food, we shall here notice *milk* and its various products.

79  
Milk.

MILK is the proper and natural food of the young of all animals of the mammalia class; and cows milk makes a principal part of the daily diet of a great proportion of the human race, both in the infant and adult state. On account of the abundance of oily and cheesy matter which it contains, cow's milk is to infants by no means so well suited as human milk; but as the mode of living in civilized society often depraves the quality of woman's milk, or prevents its secretion, cows milk in too many instances becomes a necessary substitute. On such occasions, as it is too heavy to be given alone, it should be diluted with water: and as it is disposed to become more acedent than human milk, and from that cause to produce gripings and other disorders of the bowels in young children, it will often be useful to mix with it decoctions of animal substances, such as chicken or veal broth, or decoction of hartshorn shavings; of which last two ounces should be boiled in a quart of water, over a gentle fire, till the whole is reduced to a pint; when, after it is become cold, it will be of the consistence of a light jelly. This, mixed with about twice its quantity of cows milk, with the addition of a little sugar, forms for young subjects a proper aliment, approaching nearly to the nature of human milk.

Milk is used medicinally in consumptions, especially in their early stage; in gouty affections, after the paroxysm is gone off, in smallpox, diluted with water, as the common drink; in measles, especially the malignant kind, diluted in the same manner; in gonorrhœa,

lues venerea, and during a mercurial salivation in cancerous affections; in cases where mineral and animal poisons, have been swallowed; in cases of strangury and dysury from the absorption of cantharides, &c.; in fluor albus; in many spasmodic and nervous disorders.

When milk is used medicinally, it is often serviceable to dilute it with Pyrmont, Seltzer, or some other proper mineral water; and to prevent acidity, and make it sit easier on the stomach, limewater, and some of the distilled aromatic waters, are occasionally mixed with it. To obviate costiveness, which milk is apt to induce, it is often proper to mix brown sugar, or magnesia with it, to boil it with oatmeal, veal broth, &c.

In general, milk is improper in inflammatory fevers, unattended with pustulous eruptions; in bilious fevers; in scrophulous cases; and in rickets.

The following are the principal products and preparations of milk in dietetic and medicinal use; cream and butter are well known; nor can it be necessary to notice how much they disorder the stomach and bowels when taken too freely.

*Curds* taken in considerable quantity, are highly oppressive to the stomach, and not unfrequently prove the cause of obstructions and inflammations of the bowels.

*Cheese* varies according to the kind of milk from which it is prepared, according to the quantity of oil and whey which the coagulable matter contains, and lastly according to its age. In general, it is an aliment suited only to strong stomachs, and to such persons as use great and constant exercise. In the higher orders of society, it is used chiefly as a condiment. Toasted cheese is not easily digested by weak stomachs; and for those who can be hurt by indigestion, or heated by a heavy supper, it is a very improper diet\*.

*Butter-milk* is milk which has been deprived of its oily matter by churning or agitation. It is nourishing, cooling, and diluent. It is used in cachexies, atrophies, consumptions, &c.

*Whey* is the watery, saccharine part of milk, freed in a great measure from the butyraceous and caseous matter. It is lightly nutritive, diluent, aperient, and diuretic. It is given in consumptions, dysenteries, jaundice, &c. alone, or mixed with mineral waters, and sometimes impregnated with the juices of medicinal herbs. Wine whey, tartar whey, mustard whey, will be particularly noticed in their proper places.

*Sugar of milk* is a saline substance, obtained from the whey by evaporation. It has been properly called the essential salt of milk. It has been much extolled by some writers as a remedy in consumptions; but as it is contained in whey, it is evident that preparation must possess all its virtues, and therefore that the trouble of obtaining it separate must be unnecessary †.

## II. FROM THE VEGETABLE KINGDOM.

Vegetable food is more ancient than any other. As forming the food of animals, it is the foundation of all our nourishment, for by it those animals are nourished, which in turn afford sustenance to man. Indeed there are no circumstances under which a diet of animal food should be solely employed. This has been confirmed by every experiment made; and the confinement of a person only for a few days to this mode of living, has induced

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Cheese.

\* See

Cheese.

81

Butter

milk.

† Synopsis of Mat. Aliment. and Med. vol. i.

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Of vegetable food in general.



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induced such symptoms as obliged him to desist. Besides this, by stimulating to an extreme degree, the springs of life are by animal diet urged on too fast; and preternatural, and of course weakening exertions of the system ensue, which induce, from their excess, an early decay. Thus childhood is prematurely ushered by it into manhood; and the powers of manhood, soon exhausted, display the infirmities and progress of age, at a period when vigour and strength should still be in perfection. A diet of vegetable food is, on the contrary, conducive to long life. It neither accelerates the vital energy, nor ripens the fruit before its time, but with a slow and regular step brings forwards the different stages in their due season, and with all the advantages which their proper maturity ought to confer on them. At the same time, while we thus point out the good effects of a vegetable diet, in arresting the progress of life, and giving a greater permanence to existence, we by no means approve of it as a diet to be entirely trusted to.

Declainers on the exclusive use of vegetable diet have not taken into view the various and new circumstances of situation in which man is now placed. He is no longer the child of nature, nor the passive inhabitant of one genial spot, as when he was first formed. He is now a citizen of the world at large; exertion and toil are his constant attendants, and he requires a more ready and assimilated nourishment than vegetable food can convey. In many situations also, the vigour of his system is weakened by extremes of temperature, which demand, to counteract them, the most stimulant and invigorating food he is capable of acquiring. The excellence of vegetable food used alone is therefore confined to a mild temperature and a passive state, and there it certainly deserves that preference which humanity and philosophy have bestowed upon it. Considering vegetable food as conveying a nourishment insufficient for our present civilized situation, we shall next state the inconveniences that attend its being used in excess. The first inconvenience of vegetable food already noticed, is its constant tendency to acescency; but this is hurtful only when it takes place to a morbid degree. If a natural tendency to acescency prevails in the stomach, as a step towards assimilation, it cannot fail to be noxiously increased by the sole use of vegetables; and the counteracting of this state, or checking the tendency to fermentation, must be the great secret in the regulation of vegetable diet. This secret no doubt depends on the preventing, by our choice of vegetables, excess in the proportion of fermentable or saccharine matter, and in exciting the action of the stomach, so that the vegetable food may not be too long retained upon it.

The next inconvenience alleged against vegetable diet is its difficulty of assimilation. That vegetable aliment is more difficult in being reduced to nourishment, seems generally admitted, and in the end it produces a greater quantity of feces. When received into the stomach it is likewise specifically lighter than the gastric fluids. Hence it floats near the top of the stomach, and causes irritations. This uneasiness is not felt for some time after its reception, but afterwards it begins to operate on the upper orifice of the stomach. The difficulty, however, of assimilation that attends vegetable food, may be got the better of by a proper se-

lection of it; and it will also be chiefly felt in weak stomachs, and will by no means affect the vigorous and robust.

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A third inconvenience of vegetable food is its extrication of a considerable quantity of air, by which the stomach becomes distended, often to an enormous degree, and much uneasiness is produced in the adjacent organs. This extrication of air is common to all vegetables; it varies, however, extremely in different kinds of them; and it is from this circumstance that the flatulence and torpor is experienced, which succeeds a full meal of them. Hence all vegetables that contain much of it should undergo a previous preparation before being used as food.

These, then, are the chief inconveniences attending a vegetable regimen; while on the contrary, to counterbalance them, this species of diet is always found to promote or sharpen the appetite, and to keep the stomach in an active state. Neither are any constitutional disorders the consequence of it, as happens from animal food, for whatever morbid symptoms arise under its use are confined almost entirely to the stomach and bowels, and seldom carry any hurtful effects to the system at large. Neither do any evils arise from occasional excesses in its use; and the mischiefs of repletion or overfulness are avoided by it, unless in cases of extreme indolence, or where a continued course of intemperance is pursued as to the quantity taken. By its moderate stimulus it counteracts the disposition to an inflammatory state, and in many cases proves highly serviceable, in checking the violence, and arresting the progress of many constitutional diseases. Independently of its nature, it is of great importance to the stomach, by giving that proper distention which this organ requires in order to its healthy action.

The wisdom of nature has provided that the extent of vegetable food should be much greater than that of animal food, as the former is the foundation of nourishment for all the animated creation. Hence we find that there is scarcely any vegetable that does not afford nourishment to some animal; and there are many which, though naturally of a deleterious quality, can, by proper preparation, be converted into nourishment to man. Man, more than any other animal, is distinguished as to the choice of food which he makes; and in this selection he is generally determined by his taste, between which and the stomach nature has established such a sympathy, that what is disagreeable to the one, is seldom very digestible by the other. Hence inclination is to be particularly studied in every case of weakness of the stomach.

Among the other properties of vegetable food, it has been especially considered by all authors as having most influence on the powers of the mind, and in preserving a delicacy of feeling, a liveliness of imagination, and an activeness of judgement; but in proportion to these superior qualities, it must be observed, this state of body is equally the attendant of timidity, fluctuation, and doubt. Animal food, in the other extreme, gives a strong vigour and firmness of purpose, fitted for the most active exertions of life. By a mixture of diet these two extremes come to be counteracted; the body possesses a proper share of vigour; and, correspondent to it, the mind displays a firmness and capacity suited to every valuable purpose. The diet, then,



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then, producing this state may be properly called temperance, without limiting the individual to an exact portion of either kind of food, or tying him up by the absurd and sickly system of Cornaro; and this state will be properly regulated by the experience and feelings of each individual, both in regard to the quantity and quality of his nourishment.

In the use of vegetable food, as well as animal, attention must be paid both to the proportion of it taken, and also to the state in which it is used. The first of these must be regulated by the three circumstances of season, way of life, and climate. With respect to the first—in summer the quantity of vegetable food should be always increased, whatever our habits may be; the propriety of this is evidently pointed out by nature, from its abundance at this period. This increase of vegetable food is also the more necessary if the appetite is naturally keen and healthy, as a more strongly nourishing aliment would at this time expose to all the effects of putrescency, which the increase of the vegetable diet will, on the contrary, counteract.

The way of life must also regulate a good deal the proportion of vegetable nourishment. An essential circumstance in the use of all diet, as we formerly remarked, is the production of such a distention of the stomach and bowels as may enable them to act properly on their contents. In the sedative and inactive, it is particularly desirable that this distention should be produced by food of a less nourishing kind, and that no more nourishment be received than what the wants of the system require. Hence in these cases, a vegetable diet is to be preferred, while, in the active and laborious, the plan should be reversed.

It is a fact sufficiently established, that the proportion of vegetable food should be in a great measure regulated by the climate, as there is no doubt that the mortality of warm climates is aggravated by the use of too much animal food; and that a diet of a vegetable and acescent nature with a large proportion of condiment, such as we find used by the inhabitants of those countries, is best suited to the preservation of health; for by this excess of condiment, the morbid effects on the stomach and bowels, natural to vegetable food, are counteracted, and the chyle formed from them passes into the circulation in a proper state for supporting the body in such a situation. On the other hand, in a colder region, a permanence of nourishment is required, which animal food particularly conveys; and as this nourishment is less apt to disorder the stomach or bowels, no great portion of condiment is necessary, either as a stimulus to the organ, or in order to avoid any hurtful consequences that may arise. The proportion, therefore, of vegetable food is clearly pointed out to be small, and chiefly of the farinaceous or least acescent kind.

The state in which vegetable food is used is of equal importance with the proportion of it taken. Thus vegetable food particularly requires to be used in a fresh state; for, by being kept, many kinds of vegetables lose their peculiar flavour, their taste and smell, and in consequence of this become indigestible; this is particularly the case with the pulses, with herbs, and with fruits.\*

\* See Nisbet on Diet.

To these general remarks we shall subjoin a catalogue of esculent plants from Bryant's Flora Dietetica, distributed

according to the method of that author, into roots, shoots, stalks, leaves, flowers, berries, stone fruit, apples, legumens, grain, nuts, and funguses.

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Esculent roots.

## I. ESCULENT ROOTS.

SECT. 1. ROOTS now or formerly made use of as Bread.

Arum colocasia, *Egyptian arum*. A. esculentum, *catalpa arum*. A. peregrinum, *edders*.  
Calla palustris, *water dragons*.  
Convolvulus batatas, *Spanish potatoes*.  
Dioscorea fativa. D. alata. D. bulbifera, *Indian yams*.  
Jatropha maniot, *Indian bread*.  
Nymphaea lotus, *Egyptian lotus*.  
Sagittaria sagittifolia, *common arrowhead*.  
Solanum tuberosum, *common potatoes*.  
Yucca gloriosa, *Adam's needle*.  
Polygonum divaricatum, *eastern buckwheat*.

SECT. 2. ROOTS occasionally eaten as Condiments, or for other family purposes.

Amomum zingiber, *common ginger*.  
Allium cepa, *common onion*. A. ascalonicum, *shallot*.  
A. scordoprasum, *rokambole*.  
Apium petroselinum, *common parsley*.  
Bunium bulbocastanum, *earth nut or pig-nut*.  
Beta rubra, *red beet*.  
Brassica rapa, *common turnip*. B. rapa punicea, *purple-rooted turnip*. B. rapa flavescens, *yellow-rooted turnip*. B. rapa oblonga, *long rooted turnip*.  
Campanula rapunculus, *rampion*.  
Cochlearia armoracia, *horse radish*.  
Carum carui, *caraway*.  
Cyperus esculentus, *rush nut*.  
Daucus carota, *carrot*.  
Eryngium maritimum, *sea holly*, or *eryngo root*.  
Guilandina maringa, *Ceylon guilandina*.  
Helianthus tuberosus, *Jerusalem artichoke*.  
Ixia chinensis, *spotted ixia*. I. bulbifera, *bulb-bearing ixia*.  
Lathyrus tuberosus, *peas earth nut*.  
Orobis tuberosus, *heath peas*.  
Orchis mascula, *male orchis*.  
Pastinaca fativa, *the parsnip*.  
Raphanus sativus, *the radish*.  
Scorzonera hispanica, *viper's grass*.  
Sium hisarum, *skirrets*.  
Lilium martagan, *martagan lily*.  
Tulipa gesneriana, *common tulip*.  
Tragopogon pratensis, *yellow goat's-beard*. T. porrifolium, *purple goat's-beard*.

## II. ESCULENT SHOOTS, STALKS, SPROUTS, AND PITHS.

84  
Esculent shoots, stalks, &c.

SECT. 1. SHOOTS and STALKS.

Asparagus officinalis, *asparagus*.  
Anethum azoricum, *sweet azorian fennel*.  
Angelica archangelica, *angelica*.  
Arctium lappa, *burdock*.  
Aclepias syriaca, *greater Syrian dogbane*.  
Apium graveolens, *smallage*. A. dulce, *garden celery*.

Campanula



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Campanula pentagonia, *Thracian bell-flower*.  
 Cynara cardunculus, *cardoon*, or *chardoon*.  
 Carduus marianus, *milk thistle*.  
 Cnicus cernuus, *Siberian nodding cnicus*.  
 Chenopodium bouis henricus, *English mercury*.  
 Convolvulus foldanella, *sea bindweed*.  
 Cucubalus behen, *spatling poppy*.  
 Epilobium angustifolium, *rosebay willow herb*.  
 Humulus lupulus, *wild hops*.  
 Onopordum acanthium, *cotton thistle*.  
 Rheum rhaponticum, *rhapontic rhubarb*.  
 Smyrnum olusatrum, *common alexanders*. S. perforiatum, *round-leaved alexanders*.  
 Saccharum officinarum, *sugar-cane*.  
 Sonchus alpinus, *mountain sow-thistle*.  
 Tamus communis, *black briony*.  
 Tragopogon pratensis, *yellow goat's-beard*. T. portifolium, *purple goat's-beard*.

## SECT. 2. SPROUTS and PITHS.

Areca oleracea, *cabbage-tree*.  
 Arundo bambos, *bamboo-cane*.  
 Brassica oleracea, *common cabbage*. B. O. viridis, *green savoy cabbage*. B. O. fabauda, *white savoy cabbage*. B. botrytis, *cauliflower*. B. B. alba, *white cauliflower*. B. B. nigra, *black cauliflower*. B. fabellica, *Siberian br.-coli*. B. præcox, *early battersea cabbage*. B. rapa, *common turnip*.  
 Cyperus papyrus, *paper rush*.  
 Cyrcas circinalis, *sago palm tree*.  
 Portulaca oleracea, *purslane*. P. latifolia, *broad-leaved garden purslane*.  
 Smilax aspera, *red berry, rough pine-weed*.

## III. ESCULENT LEAVES.

## SECT. 1. COLD SALADS.

Apium petroselinum, *parsley*. A. crispum, *curled-leaved parsley*.  
 Allium cepa, *common onion*. A. schænoprasum, *cives*.  
 A. oleraceum, *wild garlic*.  
 Artemisia dracunculus, *taragon*.  
 Asine media, *common chick-weed*.  
 Borago officinalis, *borage*.  
 Cacalia ficoides, *fig marigold-leaved cacalia*.  
 Cichorium endivia, *endive*. C. endivia crispa, *curled-leaved endive*.  
 Cochlearia officinalis, *scurvy grass*.  
 Erysimum alliaria, *Jack by the hedge*. E. barbarea, *winter cress* or *rocket*.  
 Fucus saccharinus, *sweet fucus* or *sea belts*. F. palmatus, *banded fucus*. F. digitatus, *fingered fucus*. F. esculentus, *edible fucus*.  
 Hypochaeris maculata, *spotted hawk-weed*.  
 Lactuca fativa, *lettuce*.  
 Leontodon taraxacum, *dandelion*.  
 Lepidium fativum, *garden cress*. L. virginicum, *Virginian sciatic cress*.  
 Mentha fativa, *curled mint*. M. viridis, *spear-mint*.  
 Oxalis acetosella, *wood sorrel*.  
 Poterium sanguisorba, *garden burnet*.  
 Primula veris, *common cowslips*, or *paigles*.  
 Rumex scutatus, *round leaved sorrel*. R. acetosa, *common sorrel*.  
 Salicornia europea, *jointed glasswort*, or *saltwort*.

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Scandix cerefolium, *common chervil*. S. odorata, *sweet cicely*.  
 Sedum reflexum, *yellow stonecrop*. S. rupestre, *Vincen's rock stonecrop*.  
 Sifymbrium nasturtium, *water-cress*.  
 Sinapis alba, *white mustard*.  
 Tanacetum balsamita, *costmary*.  
 Valeriana locusta, *lamb's lettuce*.  
 Veronica beccabunga, *brooklime*.  
 Ulva lactuca, *green laver*.

## SECT. 2. BOILING SALADS.

Amaranthus oleraceus, *esculent amaranth*.  
 Arum esculentum, *Indian kale*.  
 Atriplex hortensis, *garden orach*. A. hortensis nigricans, *dark green garden orach*. A. hortensis rubra, *red garden orach*.  
 Anethum fœniculum, *common fennel*. A. dulce, *sweet fennel*.  
 Brassica oleracea, *cabbages*. B. napus, *colewort*.  
 Chenopodium bonus henricus, *v. s.*  
 Cnicus oleraceus, *round-leaved meadow thistle*.  
 Corchorus olitorius, *common Jews mallow*.  
 Crambe maritima, *sea colewort*.  
 Jatropha maniot, *cassava*.  
 Malva rotundifolia, *dwarf mallow*.  
 Mentha viridis, *spear-mint*. See Sect. i.  
 Phytolacca decandra, *American nightshade*.  
 Ranunculus ficaria, *pilewort*.  
 Raphanus fativus, *common radish*.  
 Salvia sclarea, *garden clary*.  
 Spinacia oleracea, *common spinach*. S. O. glabra, *smooth spinach*.  
 Thea bohea, *bobea tea*. T. viridis, *green tea*.  
 Urtica dioica, *common stinging nettle*.

## SECT. 3. POT HERBS.

Apium graveolens, *celery*. A. petroselinum, *parsley*.  
 Allium porrum, *leeks*.  
 Brassica oleracea, *cabbages*.  
 Beta vulgaris alba, *white beet*.  
 Crithmum maritimum, *rock samphire*.  
 Hyssopus officinalis, *common hyssop*.  
 Oxalis acetosella, *wood sorrel*.  
 Ozymum basilicum, *sweet scented basil*.  
 Origanum marjorana, *common marjoram*. O. marjorana tenuifolia, *fine-leaved sweet marjoram*. O. hæracleoticum, *winter sweet marjoram*. O. onites, *pot marjoram*.  
 Picris echioides, *common ox-tongue*.  
 Rosmarinus officinalis, *common rosemary*. R. hortensis, *garden rosemary*.  
 Salvia officinalis, *green and red sage*. S. minor, *tea sage*.  
 Satureja hortensis, *summer savory*. S. montana, *winter savory*.  
 Scandix cerefolium, *common chervil*. S. odorata, *sweet cicely*.  
 Sonchus oleraceus, *common sow thistle*.  
 Thymus vulgaris, *common thyme*. T. mastichinus, *mastic thyme*.

## IV. ESCULENT FLOWERS.

Calendula officinalis, *common marigold*.

4 T

Caltha

86  
Pot herbs.87  
Esculent flowers.85  
Esculent leaves.



*Caltha palustris*, marsh marigold.  
*Capparis spinosa*, caper bush.  
*Carthamus tinctorius*, safflower.  
*Carlina acaulis*, dwarf carline thistle.  
*Cynara cardunculus*, cardoon.  
*Cynara scolymus*, green or French artichoke. *C. hor-*  
*tensis*, globe artichoke.  
*Cercis filiquastrum*, common Judas-tree.  
*Helianthus annuus*, annual sunflower.  
*Onopordum acanthium*, cotton thistle.  
*Tropæolum majus*, Indian cress. *T. minus*, smaller  
 Indian cress.

## V. ESCULENT BERRIES.

## Sect. 2. Indigenous or Native BERRIES.

*Arbutus uva ursi*, bear-berry. *A. alpina*, mountain  
 strawberry. *A. unedo*, common strawberry.  
*Berberis vulgaris*, common barberry.  
*Crataegus aria*, white beam tree. *C. terminalis*, maple-  
 leaved service or sorb.  
*Fragaria vesca* vel *fylvestris*, wood strawberry. *F.*  
*northumbriensis*, Northumberland strawberry. *F. im-*  
*perialis*, royal wood strawberry. *F. granulosa*, minion  
 wood strawberry. *F. pratensis*, Swedish green straw-  
 berry. *F. moschata*, hautboy strawberry. *F. moscha-*  
*ta rubra*, red blossomed strawberry. *F. moschata her-*  
*maphrodita*, royal hautboy. *F. chinensis*, Chinese straw-  
 berry. *F. virginiana*, Virginian scarlet strawberry.  
*F. V. coccinea*, Virginian scarlet-blossomed strawberry.  
*F. V. campestris*, wild Virginian strawberry. *F. chi-*  
*loensis*, Chili strawberry. *F. C. devanensis*, Devonshire  
 strawberry.  
*Juniperus communis*, common or English juniper. *J.*  
*arbor*, Swedish juniper.  
*Ribes rubrum* et *album*, red and white currants.  
*R. nigrum*, black currants. *R. grossularia*, gooseber-  
 ries.  
*Rosa canina*, dog's rose, or hep-bush.  
*Rubus idæus*, raspberry. *R. I. albus*, white rasp-  
 berry. *R. I. lævis*, smooth-stalked raspberry. *R. cæ-*  
*sius*, dewberry. *R. fruticosus*, common bramble. *R.*  
*chamæmorus*, cloudberry. *R. arcticus*, shrubby straw-  
 berry.  
*Vaccinium myrtillus*, blackworts, or bilberry. *V.*  
*vitis idæa*, redworts. *V. oxycoccus*, cranberry.

Sect. 2. Foreign BERRIES, often raised in gardens  
and stoves.

*Annona muricata*, four sop. *A. reticulata*, custard  
 apple. *A. squamosa*, sweet sop.  
*Bromelia ananas*, pine apple. *B. ananas pyramida-*  
*to fructu*, sugar-loaf pine-apple. *B. karatas*, the pen-  
 guin.  
*Cactus opuntia*, prickly pear. *C. triangularis*, true  
 prickly pear.  
*Capicum annuum*, annual Guinea pepper. *C. fru-*  
*tescens*, perennial Guinea pepper.  
*Carica papaya*, the papaw or popo. *C. pofoposa*, pear-  
 shaped papaw.  
*Chrytophyllum caineto*, star-apple. *C. glabrum*, sa-  
 padilla, or Mexican medlar.  
*Citrus medica*, common citron. *C. limon*, common  
 lemon. *C. americana*, the lime tree. *C. aurantium*,  
 common orange. *C. ducumanus*, sbaddock orange.

*Crateva marmelos*, Bengal quince.  
*Diospyros lotus*, Indian date plum. *D. virginiana*,  
 pisbamin plum.  
*Ficus carica*, common fig. *F. humilis*, dwarf fig.  
*F. caprificus*, hermaphrodite-fruited fig. *F. fructu tuico*,  
 brown-fruited fig. *F. Fructu violaceo*, purple-fruited  
 fig. *F. fycomorus*, sycamore, or Pharaoh's fig.  
*Garcinia mangostana*, mangosteen.  
*Morus nigra*, black-fruited mulberry. *M. rubra*, rea-  
 fruited mulberry. *M. alba*, white-fruited mulberry.  
*Musa paradisiaca*, plantain tree. *M. sapientum*, ba-  
 nana, or small-fruited plantain.  
*Mespilus germanica*, medlar.  
*Mammea americana*, the mammee.  
*Malpighia glabra*, smooth-leaved Barbadoes cherry.  
*M. puniceifolia*, pomegranate-leaved malpighia.  
*Passiflora maliformis*, apple shaped granadilla. *P.*  
*laurifolia*, bay-leaved passion flower.  
*Psidium pyriserum*, pear guava, or bay plum. *P.*  
*pomiferum*, apple guava.  
*Solanum lycopersicum*, love apple. *S. melongena*,  
 mad apple. *S. sanctum*, Palestine nightshade.  
*Sorbus domestica*, true service tree.  
*Trophis americana*, red-fruited bucephalon.  
*Vitis vinifera*, common grapes. *V. apyrena*, Corin-  
 thian currants.

## VI. ESCULENT STONE FRUIT.

## Sect. 1. STONE FRUIT of Europe.

*Amygdalus perica*, the peach. *A. nuciperica*, the  
 nectarine.  
*Cornus mascula*, male cornel, or cornelian cherry.  
*Olea Europea*, manured olive, *O. fylvestris*, wild  
 olive.  
*Prunus armeniaca*, the apricot. *P. cerasus*, wild red  
 cherry. *P. domestica*, the plum tree. *P. insititia*, the  
 bullace tree.  
*Rhamnus zizyphus*, common jujube.

## Sect. 2. STONE FRUIT exotic.

*Chrysobalanus icaco*, cocoa plum.  
*Coccoloba uvifera*, sea-side grape.  
*Cordiamyxa*, clustered sebesten, or Assyrian plum.  
*C. sebestena*, rough-leaved sebesten.  
*Corypha umbraculifera*, umbrella palm.  
*Elais guineensis*, oil palm.  
*Eugenia jambos*, Malabar plum.  
*Grias cauliflora*, anchovy pear.  
*Laurus persea*, avigato pear.  
*Mangifera indica*, mango tree.  
*Phoenix dactylifera*, common date.  
*Rhamnus jujuba*, Indian jujube.  
*Spondias lutea*, yellow Jamaica plum.

## VII. ESCULENT APPLES.

## Sect. 1. APPLES of Herbaceous Plants.

*Cucumis melo*, musk melon. *C. melo albus*, Spanish  
 white melon. *C. M. lævis*, smooth green-fleshed mel-  
 on. *C. M. flavus*, yellow winter melon. *C. M. par-*  
*vus*, small Portugal musk melon. *C. M. pilosus*, hairy-  
 skinned melon. *C. M. reticulatus*, netted skinned melon.  
*C. M. striatus*, late small striated melon. *C. M. tube-*  
 rosus,



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rosus, *warted cantaloupe*. C. M. turbinatus, *top-shaped melon*. C. M. virens, *green-rinded melon*.

Cucumis chale, *Egyptian melon*. C. fativus, *common prickly cucumber*. C. fativus albus, *white prickly cucumber*. C. S. longus, *long prickly cucumber*. C. flexuosus, *green Turkey cucumber*.

Cucurbita lagenaria, *bottle gourd*. C. citrullus, *water melon*. C. pepo, *common pompion*. C. P. oblongus, *long pompion*. C. verrucosa, *warted gourd*. C. melopepo, *Spanish melon*.

Melothria pendula, *small creeping cucumber*.

SECT. 2. APPLES of TREES.

Achras sapota, *oval-fruited sapota*.

Averrhoa carambola, *goa apple*. A. bilimbi, *bilimbia*.

Punica granatum, *pomegranate tree*.

Pyrus communis, *pear-tree*. P. malus, *the crab-tree*. P. cydonia, *quince-tree*.

## VIII. LEGUMINOUS PLANTS.

SECT. 1. PODS and SEEDS of Herbaceous Plants.

Arrachis hypogæa, *American ground nut*.

Cicer arietinum, *the chick pea*.

Dolichos soja, *East India kidney bean*.

Ervum lens, *lentil*.

Lotus edulis, *incurved podded bird's-foot trefoil*. L. tetragonolobus, *square podded crimson pea*.

Lupinus albus, *white flowering lupine*.

Phaseolus vulgaris, *common kidney bean*. P. V. coccineus, *scarlet flowering kidney bean*. P. albus, *white-flowering kidney bean*.

Pisum sativum, *common garden pea*. P. umbellatum, *crown pea*. P. quadratum, *angular-stalked pea*. P. maritimum, *sea pea*.

Vicia faba, *common garden bean*.

SECT. 2. PODS and SEEDS of TREES.

Cassia fistula, *sweet cassia, or pudding pipe tree*.

Ceratonia filiqua, *carob, or St John's bread*.

Coffea Arabica, *Arabian coffee*. C. occidentalis, *American C.*

Cytisus cajan, *pigeon pea*.

Epidendrum vanilla, *sweet-scented vanilla*.

Hymenæa courbaril, *bastard locust tree*.

Tamarindus indica, *the tamarind*.

## IX. ESCULENT GRAINS AND SEEDS.

Triticum æstivum, *summer or spring wheat*. T. hybernum, *winter or common wheat*. T. turgidum, *short thick-spiked wheat*. T. polonicum, *Poland wheat*. T. spelta, *German or spelt wheat*. T. monococcum, *St Peter's corn*.

Avena fativa, *manured black oat*. A. nuda, *naked oat*.

Hordeum vulgare, *common barley*. H. distichon, *long-eared barley*. H. hexastichon, *square barley*. H. zeocriton, *battledore or sprat barley*.

Secale cereale, *Common rye*.

Coix lachryma jobi, *Job's tears*.

Cynodus cerocanus, *Indian cock's-foot grass*.

Festuca fluitans, *flote fescue grass*.

Holcus forghum, *Guinea corn, or Indian millet*.

Nymphæa nelumbo, *Egyptian bean*.

Oryza fativa, *rice*.

Panicum miliaceum, *common millet*. P. Italicum, *Italian millet*.

Phalaris canariensis, *canary grass, or canary seea*.

Polygonum fagopyrum, *buck wheat*.

Quercus esculus, *cut-leaved Italian oak*. Q. phellos, *carolinean willow-leaved oak*.

Sesamum orientale, *eastern sesamum*. S. Indicum, *Indian sesamum*.

Sinapis nigra, *black mustard*. S. arvensis, *wild mustard or charlock*.

Zea mays, *Maize, or Indian wheat*.

Zezeana aquatica, *water zezeana*.

## X. ESCULENT NUTS.

Amygdalus communis, *sweet and bitter almond*.

Anacardium occidentale, *cashew nut*.

Avicenna tomentosa, *eastern anacardium, or Malacca bean*.

Corylus avellana, *hazel nut*.

Cocos nucifera, *cocoa nut*.

Fagus castanea, *common chestnut*.

Juglans regia, *common walnut*. J. nigra, *black Virginian walnut*.

Jatropha curcas, *Indian physic nut*. J. multifida, *French physic nut*.

Pinus pinea, *stone or manured pine*.

Pistacia vera, *pistachia nut*. P. narbonensis, *trifoliolate-leaved turpentine tree*.

Theobroma cacao, *chocolate nut*.

Trapa natans, *Jesuit's nut*.

## XI. ESCULENT FUNGUSES.

Agaricus campestris, *common mushroom*. A. pratensis, *the champignon*. A. chantarelus, *chantarelle agaric*. A. deliciosus, *orange agaric*. A. cinnamomeus, *brown mushroom*. A. violaceus, *violet mushroom*.

Lycoperdon tuber, *the truffle*.

Phallus esculentus, *the morel*.

For the botanical arrangement and characters of these plants, see the article BOTANY. For a particular account of the individuals as articles of diet, we must refer our readers to Bryant's Flora Dietetica, Cullen's Materia Medica, vol. i. the synopsis of Materia Alimentaria and Materia Medica, and Sir John Sinclair's Code of Health and Longevity, vol. i. The preparation and use of bread have already been treated of at considerable length under that article. The use and best methods of preparing potatoes are given under AGRICULTURE, N° 288, &c.

## B. DRINK.

DRINKS may be divided into common water, vegetable infusions or decoctions, fermented liquors, animal fluids, and animal infusions or decoctions. The two last have been already spoken of, and water will be considered hereafter. We shall here only make a few observations on the second and third heads.

The vegetables employed for infusions or decoctions used as drink, are chiefly tea, coffee, and chocolate.

All the various kinds of tea imported into this coun-

91  
Leguminous plants.93  
Esculent nuts.94  
Esculent funguses.92  
Esculent grains and seeds.95  
Drink.96  
Tea.



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try, come under the denominations of bohea and green; and even these are supposed to be the produce of the same species of plant; though Linnæus has described them as specifically different, founding the distinction on the number of their petals. Others have observed a difference in the leaves. Still, however, it is uncertain whether these are not merely accidental differences, occasioned by diversity of soil, situation, and culture. While the present narrow and jealous policy of the Chinese continues, many interesting particulars respecting the natural history of this plant must remain unknown to Europeans.

It had been well for the inhabitants of Great Britain, if the tea-leaf had never found its way to this country; they would not then have been tormented, as thousands of them now are, with an inscurable train of nervous symptoms, with stomacic and bowel complaints, with head-ach, &c. To the abuse of tea-drinking may be ascribed, in a great measure, the increased frequency of consumptions; and many of the disorders of children, and especially hydrocephalus, tabes mesenterica, rickets, &c. may be traced to the same source.

The tea-leaf, when fresh from the tree, is evidently poisonous. It is true that it loses some of its acrimony by drying: but even in the state in which it is sent to this country, it retains much of its narcotic nature. What serious mischief, then, are they bringing upon themselves, who, as is the case with too many of the lower class of society, make it a principal part of their daily subsistence! The money which should go to purchase wholesome and substantial food, is squandered away in procuring what of itself affords no nourishment at all; for whatever nourishment is derived from the infusion of tea, is owing to the sugar and milk which are added to it; and were it not for these additions, its deleterious effects would be much sooner and much more powerfully felt.

The time, it is to be hoped, is not far distant, when the poor shall be enlightened upon this important point. The next generation will hardly believe that their predecessors lavished away so much money, and took such extraordinary delight in defrauding their bodies of their proper and natural aliment, and in bringing upon themselves infamy and disease. Let the rich and the intemperate indulge, if they choose, in the narcotic draught; to their heated and oppressed stomachs it may not do harm; it may even afford momentary relief. But let the poor abstain from it. They are not surcharged with high-seasoned food. They have no feverish thirst, no feverish heat to allay, after their noon-day repast. To them it is totally unnecessary as a help to digestion, and as an article of sustenance it is worthless and improper. They would, therefore, be better, infinitely better, without it.

Besides its narcotic quality, there is another property of the tea-leaf which renders its continued use injurious to the constitution; we mean its astringency. Add to these the warm water, and we have, in this unna-

tural beverage, the infusion of tea, three different powers concurring to disorder first the organs of digestion, and ultimately the whole system.

If it be asked, what are they who have been long accustomed to tea to substitute in its place; we answer milk, milk porridge, gruel, broth, cocoa, or the like for breakfast; and in the afternoon, milk and water, orgeat, or lemonade in the summer, and coffee in the winter.

It should be understood, that the preceding remarks apply to the general abuse of tea as an article of sustenance; for its occasional employment in a dietetical and medicinal way in some kinds of sickness, is often of use. Thus, the simple infusion, without sugar or milk, is a good diluent and sedative in ardent fevers; and as it promotes perspiration and urine, it is frequently drunk with advantage in colds, catarrhs, rheumatism, headach, &c. It is also serviceable in cases of surfeit and indigestion\*.

For the use and abuse of coffee, see the article COFFEE.

Chocolate is more nourishing and less heating than coffee. It is commonly made too thick, but when of a proper degree of strength, it is a very palatable and wholesome beverage, though on account of its oily quality it proves oppressive and cloying to some stomachs. See CHOCOLATE.

Cocoa is in fact only a weak chocolate; and being less pure than the former, weak chocolate might properly be substituted for it.

Of fermented liquors we shall mention only malt liquor, wine, and ardent spirits.

Well fermented malt liquors, whether from barley or other grain, provided they be not too strong, are wholesome, refreshing, and strengthening drinks. As these liquors are very nutritious, they are chiefly suited to persons who lead a busy and active life. With sedentary and bilious persons they do not agree so well; and they are improper for the corpulent and asthmatic, and those who are liable to giddiness or other complaints of the head. They are better when of a middle age, than when kept very long. Beer made from the infusion of malted groats, or malted rye, is lighter and more diuretic than the common barley beer. Spruce beer is a powerful diuretic and antiscorbutic; it is, however too cold for some constitutions. Bottled-beer is, on account of the fixed air which it contains, more refreshing than the barrelled. It is frequently prescribed as an antiseptic and restorative in low fevers and convalescencies; but care must be taken, during the use of it, that it do not operate too freely by stool. London porter, with the common properties of malt-liquor, possesses such stomacic and diuretic qualities, as give it a preference over common beer and ale, in many cases. Being strongly impregnated with bitters of a narcotic kind, it is apt to induce drowsiness, and consequently is improper wherever there is a tendency to cephalagia, apoplexy, or other affections of the head (A).

A

(A) We cannot pretend to decide whether the prejudices that have for some time prevailed against the wholesomeness of London porter are well founded or not; but if its composition be such as given under the article BREWING, we are decidedly of opinion that it is a liquor quite unfit for constant drink.



## Part I.

Dietetics.

100  
Wine.

A temperate use of wine is conducive to the health. All the functions, both of body and mind, are roused and facilitated by it. It has a powerful effect upon the organs of digestion, upon the circulation, and upon the nervous system, promoting digestion, strengthening the action of the heart and arteries, and raising the spirits. Such is its beneficial operation, when taken sparingly. In excessive quantities it has opposite effects, destroying the stomach, inducing emaciation and debility, and occasioning inflammation and obstruction in the liver, lungs, &c. whence gout, palsy, dropsy, consumptions, diabetes, &c.

In a dietetical view, wines are to be considered as they are, either acid or sweet, soft or austere. The acid wines, of which the Rhenish and Hock are the most noted, are the least heating, and the most diuretic. The sweet, such as the Frontinac, Malaga, Tent, Cape, are heating and sudorific. The soft, or acidulcescent wines, such as Champagne, Claret, Burgundy, Madeira, &c. are less stimulating than the sweet, and more cordial than the acid wines. Of the austere and astringent, that which is most used in this country is the red Port, which, when it has not been mixed with too large a proportion of brandy, is a generous and stomachic wine, well suited to the generality of British constitutions.

101  
Perry and cyder.

Perry and cyder hold a middle place between wine and malt liquor. They are less nutritious than the latter, and less cordial than the former.

102  
Ardent spirits.

In small quantities ardent spirits are a powerful cordial and corroborant, raising the pulse, strengthening the stomach, promoting digestion, and preventing flatulence. Taken sparingly, and diluted with water, they supply the place of wine, and with some constitutions agree better, as they are not like wine, disposed to create acidity. The abuse of them is productive of the same pernicious effects as those which arise from an excessive indulgence in wine, but in a greater degree. French brandy is the most bracing and stomachic; gin and rum the most diuretic and sudorific. Arrak, which is distilled from rice, is more heating than the two last. Whisky is considered as a lighter spirit than any of the former, from its containing less essential oil, and it therefore agrees better with most stomachs. The qualities of all these several sorts of spirits are improved by long keeping\*.

\* *Practical Synopsis of the Materia Alimentaria.*

On the general subject of drinks, see the article DRINK.

103  
Condiments.

## C. CONDIMENTS.

CONDIMENTS are those substances which are taken with our food, to promote digestion, or to correct some hurtful property in the food taken. They are usually divided into saline, saccharine, aromatic, and oleaginous.

Of the saline condiments, the principal are common salt and vinegar.

104  
Salt.

Common salt, by its stimulant action on the throat, gullet, and stomach, seems to promote the secretion of saliva and of the gastric juice, and thereby facilitates digestion. It also appears, when taken in small quantity, to increase the solubility of most foods, but when taken too plentifully, it renders the food hard and dif-

ficult of solution. Salted meats and fish are unwholesome when made a constant article of diet.

Dietetics.

105  
Vinegar.

Vinegar in small quantities is a grateful and salutary stimulus to the stomach, correcting the putrescency of animal food, and the flatulency of vegetable. Its use is improper in many valetudinary cases, especially for calculous and gouty persons; in consumption and chlorosis; to rickety patients and young children.

Pickles may be considered as merely receptacles for vinegar, except in as far as the vegetables of which they are composed are in their nature warm and aromatic, as the onion.

106

Sugar is nutritious, antiseptic and laxative, and is considered as promoting the solution of fat in the stomach; but as it is very fermentable, it is apt, in many constitutions, to produce flatulence, heat, and thirst. Its unlimited use seems to be one cause of the increased and increasing frequency of bilious and hypochondriacal disorders. Chlorotic girls, rickety children, hysterical women, and all who are troubled with acidity in the stomach and bowels, should abstain from it; and those who are anxious to preserve their teeth white and sound, should not make free with it. To these observations, however, there are some constitutions which furnish exceptions. Thus we are told, that one of the dukes of Beaufort took, for the space of 40 years, nearly a pound of sugar every day; yet it neither disordered any of the viscera, nor injured the teeth, and he lived to attain the age of 70.

107  
Spices.

The aromatic condiments consist chiefly of the foreign spices, as pepper, Cayenne pepper, cinnamon, nutmeg, cloves, ginger, and of a few garden roots and seeds, such as garlick, leek, onion, horse-radish, and mustard. Of these we shall take notice under their proper heads in the *Materia Medica*.

The oleaginous condiments consist merely of olive oil and butter.

108

Oil when used as a seasoning to raw vegetables, checks their fermentation in the stomach, and thereby prevents them from proving too flatulent. Used in this manner, in small quantities, it proves a help to digestion; but when taken in considerable quantities, it has an opposite effect, and lays the foundation for bilious complaints.

The moderate use of melted butter with boiled vegetables, is, in general, by no means unwholesome; but it frequently disagrees with bilious and hypochondriacal people.

109  
Melted butter.

The proper method of preparing food, constitutes the art of cookery, on which we shall present our readers with the following general remarks, taken from Sir John Sinclair's Code of Health and Longevity.

110  
Cookery.

The primeval inhabitants of the earth certainly ate both their vegetable and animal food raw; and to this day some of the African nations, the Esquimaux Indians, the Patagonians and Samoeides, devour raw flesh and fish, and drink the blood of the animals. Raw flesh produces great bodily vigour, ferocity of mind, and love of liberty.

In general, however, animal food undergoes some preparation before it is consumed. It is hardly to be credited the shifts which some tribes have been put to, in order to obtain that object, as putting heated stones

in



<sup>Dietetics.</sup> in the bellies of pigs to roast them, or burning the straw in order to parch the grain. From these humble attempts, the great refinements of cookery, which is properly a branch of chemistry originated.

It is certain that cookery is an useful art. By it many articles are rendered wholesome, which could not otherwise have been eaten; but by it, at the same time, it must be acknowledged, that some articles are rendered unwholesome, which would otherwise have produced nourishing food.

By cookery, our foods are rendered more palatable and digestible, and when prepared in a simple manner, more conducive to health.

Cookery may be considered under two general heads, the simple, and the refined or compound.

<sup>III</sup>  
Simple  
Cookery.

The first, though apparently easy, requires a considerable degree of attention and experience; and the second is an art of so diversified and extensive a nature, that it is rarely carried to any considerable degree of perfection, and it would have been no loss to human nature if it had never been invented.

Simple cookery includes the following modes of dressing meat: 1. Roasting. 2. Boiling. 3. Stewing. 4. Broiling. 5. Frying. 6. Baking; and 7. Digesting.

<sup>III</sup>  
Roasting.

1. *Roasting* was certainly the first mode invented to prepare animal food; for boiling was a more complicated process, and required the art of manufacturing vessels that could withstand the effect of heat. Roasting, it is well known, requires a greater proportion of heat than boiling, and more skill in the preparation. By the application of fire, a considerable proportion of watery substance is exhaled from the meat. In order to be done properly, the roasting should be conducted in a gradual manner, and the heat moderately, but steadily applied, otherwise exsiccation rather than roasting, takes place. Roasted meat is certainly the best means of consuming the flesh and tasting the natural juices of the meat. It is also peculiarly calculated for birds of every sort, and for young and tender meat, taking off its viscosity, and giving it a firmness and dryness that otherwise it would not possess.

Roasted meat, at least of the larger kinds, as beef, mutton, and venison, is preferred in England, and boiled or baked meat in France. The meat of England has not, perhaps, the same flavour as that of France, but it is larger, richer, and fatter, and appears to more advantage in a roasted state. Besides, coal fires are better adapted for that process of cookery than wood or peat. It is found, indeed, that meat, roasted by a fire of peat or turf, is more sordid than when coal is employed for that purpose.

Our meat in England (Cadogan asserts) is generally over-done, and particularly over-roasted. In regard to over-roasting, the action of fire, if continued too long, has a tendency to change mild animal flesh into something of another quality; the fat, in particular, becomes bitter and rancid. The less, therefore, that all flesh meat undergoes the power of the fire, the milder and wholesomer it is. This doctrine, however, is denied by Falconer. He admits, that meat little done is the most soluble, but at the same time contends, that it is exceedingly alkalescent, and runs quickly into putrefaction. Hence the French, who live in a warm climate, find it necessary not only to eat a great quantity

of bread, to prevent the putrefying effect of animal food, but also to have their meat thoroughly boiled and roasted.

<sup>III</sup>  
Boiling.

2. *Boiling* is also an excellent mode of preparing animal food, rendering it more soluble, without destroying, if properly done, its nutritious qualities, and being peculiarly calculated for weak stomachs. But however useful moderate boiling may be in these respects, yet, when carried to an extreme, every thing soluble is extracted, the nutritious parts are conveyed to the liquor, and the meat itself is left behind insipid, dense, and unfit for nourishment.

Young and viscid food, as veal, chickens, partridges, &c. are more wholesome when roasted than boiled, and easier digested; but beef and mutton are easier digested when boiled than roasted; consequently boiling such meat is better calculated for weak stomachs. Boiling is particularly applicable to vegetables, rendering them more soluble in the stomach, and depriving them of a considerable quantity of air, so injurious to weak stomachs.

The usual mode of preparing fish for the table is by boiling, roasting rendering them more indigestible.

It is proper to observe, that those who are trained to athletic exercises, have their meat roasted or broiled, and not boiled; as it is supposed, that, when boiled, a great part of the nutritive juices of the meat is lost in the water.

3. *Stewing* is reckoned the mode by which the greatest quantity of nourishment is derived from the meat. By this plan the texture of the meat is rendered more tender, its soluble parts are not fully extracted, and it is left in a state abundantly sapid and nourishing, while the soup also, or fluid, contains a sufficient proportion of the animal extract.

4. *Broiling*, consists in exposing meat to the near application of a naked fire, by which means its outer surface immediately hardens, before the heat has penetrated the whole. This prevents any excess of exhalation; and the meat, when done, is rendered sufficiently tender. It is peculiarly suited for steaks, which are, comparatively speaking, eaten in a juicy and almost in a raw state.

5. *Frying* is a process that renders meat more indigestible than any other, and indeed, might be included under the head of compound cookery. It is performed by cutting meat into thin slices, and putting it into a vessel over the naked fire. As the lower surface of the meat would thus be burnt or hardened, some fluid matter, generally of an oily nature, is introduced, which acquires, from the heat, a burnt or empyreumatic taste, and becomes hardly miscible with the fluids in the stomach. It requires, therefore, the addition of stimulants to enable the stomach to digest it.

6. *Baking* consists in the application of heat in a dry form, but in a vessel covered with a paste instead of its being exposed to the open air. Any considerable exhalation is thus prevented, and the meat, by the retention of all its juices, is rendered more sapid and tender. But baked meat sits heavy on some stomachs, from the greater retention of its oils, which are in a burnt state. It requires, therefore, the additional stimulus of spices and aromatics, to render it lighter, and to increase the power of the stomach to digest it.

7. *Digesting* is the last discovered process of simple cookery.



**Dietetics.** cookery. It is performed in a close vessel, and resembles boiling, being conducted in a very high temperature, while, from the closeness of the vessel, the advantages of stewing are procured. It is not, however, much in use.

**Dietetics.**

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**Jellies.** Besides these various simple modes of preparing animal food, there is another, which it may here be proper to take notice of, namely, when animal food is dissolved in water, and formed into a gelatinous solution or jelly. This substance is of a viscid nature, and though it contains much nourishment, yet is difficult of digestion, and of course less calculated for diseased or weak stomachs than is commonly imagined. Nor are those jellies, which are the mucilaginous extracts of certain parts of animals, as hartshorn, very digestible; indeed, a too liberal use of them has often proved injurious. They can only be recommended for the sick, accompanied with a quantity of stale bread. To those who require an article of that sort, more especially if their stomachs are weak, simple beef tea, properly prepared, is the most nutritive balsam that can be administered.

It may also be proper to observe, that even after provisions have been dressed in the kitchen, they have often to undergo some operations of cookery at the table; this is principally by the addition of some of the various sorts of seasoning or condiments.

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**Compound cookery.** One would imagine, that all the various modes of preparing food above enumerated, might satisfy the most luxurious appetite; but, instead thereof, the ingenuity of man has been exerted to discover a number of other preparations. Hence, a system of refined or compound cookery has been invented, more flattering to the palate than favourable to the health.

If would be improper to touch upon processes which it is impossible for any writer on dietetics to mention with any degree of approbation. Some dishes may be prepared, variously compounded, which may occasionally be tasted, and plain fauces may be a useful addition to fish and vegetables; but the generality of ragouts, made dishes, and the like, are of a poisonous quality, and cannot be too anxiously avoided by those who entertain any anxiety for the preservation of their health\*.

\*Code of  
Health and  
Longevity,  
vol. 1.

The foregoing observations on diet are adapted chiefly to persons in health; but it is of great importance for a medical man to know what is the most proper diet for the sick and for convalescents. To treat this subject properly would occupy more room than we can allot to it, we shall, therefore, only insert here the following remarks by the late Dr Heberden, with which we shall conclude this part of the article.

“Many physicians appear to be too strict and particular in the rules of diet and regimen, which they deliver as proper to be observed by all who are solicitous either to preserve or recover their health. The common experience of mankind will sufficiently acquaint any one with the sorts of food which are wholesome to the generality of men; and his own experience will teach him which of these agrees best with his particular constitution. Scarcely any other directions besides these are wanted, except that, as variety of food at the same meal, and poignant fauces, will tempt most persons to eat more than they can well digest; they ought therefore to be avoided by all who are afflicted with

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**Diet of sick and convalescent persons.**

any chronic disorders, or wish to keep from them. But whether meat should be boiled or roasted, or dressed in any other plain way, and what sort of vegetables should be eaten with it, we never yet met with any person of common sense who did not appear fitter to chuse for himself than we could direct him. Small beer, where it agrees, or water alone, are the properest liquors at meals. Wine or spirits mixed with water have gradually led on several to be fots, and have ruined more constitutions than ever were hurt by small beer from its first invention.

“In fevers a little more restraint is necessary, but not so much as is often enjoined. The stronger sorts of meat and fish are most usually loathed by the sick themselves, nor could they be eaten without offending the stomach, and increasing the distemper, while it is at all considerable; but in its decline the sick are often desirous of some of the milder sorts of meat, and no harm follows from indulging their desire. The English are said to eat more meat when they are well than most other nations; but were remarkable, so long ago as the time of Erasmus, for avoiding it more scrupulously when they are sick than any other people. How high soever the fever be, the sick may be safely nourished with weak broths and jellies, and with any vegetable substances, if we except the acid and aromatic, or with the infusions or decoctions prepared from them; and we know no reason for preferring any of these to the rest. Eggs and milk have been, we know not by what authority, forbidden in all fevers; but as far as our experience goes, they both afford innocent food in the worst, where they are grateful to the patients.

“The feverish thirst is best allayed by pure water, which may be drunk either warm or cold, at the option of the sick person, and he may drink as much as he pleases; but we see no advantage in persuading him to gorge himself with liquids, as is often done, against his inclination and stomach. If water be deemed too insipid, currant jelly, and a variety of syrups, may be dissolved in it; or apples sliced or roasted, tamarinds, sage, or baum, or toasted bread, may be infused in it; or decoctions may be made of oatmeal, barley, or rice; or the water may be made into an emulsion with the oily seeds; all which, with a variety of similar substances, merely correct its insipidness, but in other respects leave it just what it was.

“There is scarcely any distemper, in every stage of which it may not be safely left to the patient's own choice, if he be perfectly in his senses, whether he will sit up, or keep his bed. His strength and his ease are chiefly to be attended to in settling this point; and who can tell so well as himself, what his ease requires, and what his strength will bear?

“Doubts are often raised about the propriety of changing the linen in sickness, just as there have been about changing the foul air of the sick chamber by any of the means which could purify and refresh it. There can be very little reason to fear any mischief from the cold which the sick may feel while their clean linen is putting on; for their attendants, with common care, will do this as safely as many other things which must necessarily be done for them. But some have a strange opinion of harm from the smell of the soap perceivable in linen after it has been washed, and therefore allow not their patients, when they change their linen, ever to



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to put on fresh, but such only as has been worn, or lain in, by other persons. By this contrivance indeed the smell of the soap might be taken off; but few cleanly people would think they gained any advantage by the change. Now, if a faint smell of soap were noxious, then soap-makers and laundry servants must be

remarkably unhealthy, which is contrary to experience; nor is it less so, that the sick are injured by the cleanliness of what they wear; on the contrary, the removing of their foul things has often diffused over them a sense of ease and comfort, which has soon lulled them into a quiet and refreshing sleep\*." Therapeutics.

\* Hæberden's Commentaries.

## PART II. OF THE GENERAL ACTION OF REMEDIES, AND THEIR CLASSIFICATION.

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Action of  
remedies.

WE shall not attempt any new or original disquisition on the action of remedies, but shall merely state the most generally received opinions on the subject. We shall begin with the doctrine of the disciples of Cullen, which has been well expressed by Dr Percival in the following propositions.

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Medicines  
act by an  
immediate  
and peculiar  
impression  
on the  
alimentary  
canal.

1. *Medicines may act on the human body by an immediate and peculiar impression of the stomach and bowels, either in their proper form, in a state of decomposition, or a change in the arrangement of their parts*—The sympathy of the stomach with the whole animated system is so obvious to our daily experience, that it cannot require much illustration. After fasting and fatigue, we feel that a moderate quantity of wine instantly exhilarates the spirits, and gives energy to all the muscular fibres of the body. It has been known even to produce a sudden and large augmentation of weight, after much depletion, by rousing the absorbent system to vigorous action. Such power is peculiar to living mechanism; and is properly denominated by physicians, the *vis medicatrix naturæ*. But apparent as is the sympathy of the stomach, the laws by which it is governed are very insufficiently understood; and we have hitherto learned only from a loose induction of facts, that the nerves of this delicate organ seem to be endowed with diversified sensibilities; that impressions made by the same or different substances, have their appropriate influence on different and distant parts; and that the stomach itself undergoes frequent variations in its states of irritability. A few grains of *sulphate of copper*, taken internally, excite instantly the most violent contractions of the abdominal, and other muscles concerned in vomiting. A dose of *ipécacuanha*, as soon as it produces nausea, abates both the force and velocity of the heart, in its vital motion; and affects the whole series of blood vessels, from their origin to their minutest ramifications, as is evident by the paleness of the skin under such circumstances, and by the efficacy of emetics in stopping hæmorrhages. The head, when disordered with vertigo, sometimes derives sudden relief from a tea spoonful of ether, administered in a glass of water. An incessant cough has been known to attack the lungs, in consequence of the stimulus of a pin, which had been unwarily swallowed. Of the action of medicines on the stomach, under decomposition or recomposition, we have an example familiar to every one, in *carbonate of magnesia*. For this earth by neutralizing the acid in the *primæ viæ*, acquires a purgative quality, and at the same time yields a gas of great salubrity, as an anti-emetic, tonic, and antiseptic.

2. *Medicines may pass into the course of circulation in one or other of the states above described, and being convey-*

ed to different and distant parts, may there produce certain appropriate effects.—Chemistry furnishes us with numberless cases in which substances undergo changes, and take new forms more remarkable than can be effected by digestion, retaining still the *materia prima*, and being capable of resuming the original arrangement of their particles, and consequently their original qualities. Now, a body altered in its texture by digestion, and carried into the system with aliment, may acquire specific powers of acting on particular sound or diseased parts. Thus, if we suppose cantharides to be changed in form and texture, when mixed with the chyle, the lymph, or the blood, they may still, in that form and texture, be peculiarly adapted to excite strangury in the urinary passages, or, we may conceive that this new modification of their particles may again be altered, and their original composition restored by a subsequent chemical change in the kidneys. The sensible qualities of any body are no certain marks of its medicinal action. Peruvian bark does not owe its efficacy in fevers to its bitterness, for stronger bitters are not possessed of its febrifuge powers. Antimony, though insipid, produces a violent action on the nerves of the stomach, and yet if applied to the eye, an organ equally sensible, it is altogether inert. To what perceptible property in opium are we to ascribe its narcotic powers? or is there in the sweet taste of acetate of lead, any indication of a deadly poison? Numberless instances may be adduced to prove the uncertainty of reasoning otherwise than from observation, concerning the action of medicines, and the peculiar sensibility of different parts of our system to their impression. Following experience, therefore, as our guide, let us notice a few facts that may elucidate the subject before us. It is well known that madder root, when taken by an animal, carries its tinging quality to the bones, affecting neither the skin, the muscles, the ligaments, nor the fat. Consequently this tinging quality is left unchanged by digestion; or perhaps it is again recovered, when arrived at the bones, by some new arrangement of parts produced by the chemistry of nature. Extract of logwood, taken internally, sometimes gives a bloody hue to the urine. But the astringency of it does not seem to accompany its colouring matter. We recollect no instance wherein the milk either of a nurse, or of an animal, was tinged with madder or logwood. This affords some presumption, that the pigment does not subsist in its proper form, in the blood; but that it is recovered by a subsequent change in the disposition of its constituent particles. And if one substance stain the bones, by being carried into contact with them, another may, in an analogous manner, produce in them fragility or dissolution.

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Medicines  
produce effects  
on distant  
parts  
through  
the circulation.



Therapeutics. solution. In the disease termed by the French *ergot*, and which, with some probability is ascribed to the use of a species of unsound corn, the bones lose the earthy matter that enters into their texture; the gums become soft, and are easily broken. This effect is gradual, and probably arises from some unknown quality in the corn, which is either not taken away by digestion, or is resumed in the juices that circulate through the osseous vessels. A change in the process of vegetation may communicate a solvent power to an esculent seed. Mustard acquires this by its natural growth, and is capable of rendering even ivory soft and fragile. How far it would produce such an effect on the bones of a living body, if used as the chief article of diet, we have no experience on which to ground any satisfactory conclusion.

Sulphur, whether externally or internally used, produces a cure in the itch. In each way, therefore, we may presume its operation to be similar. But when taken into the stomach, there can be no doubt that it undergoes a change in the modification of its parts, and that it does not circulate through the blood vessels either in the form or with the properties of sulphur. Yet when conveyed to the surface of the body, it evidently appears to recover its original powers, communicating its peculiar odour to the perspiration, tinging silver, and curing cutaneous desquidations. The same holds true of the sulphuric acid, when administered in large doses. It seems to lose oxygen in the animal body, and to pass off by the pores, as hepatic air, or as volatilized sulphur. Even when given to nurses, it proves an effectual remedy for the itch, both in them and the children whom they suckle. Mercury combined with sulphur into the black sulphuret, has frequently been regarded as inert. Instances, however, have occurred in which, under this form, though accurately prepared, it has produced salivation; an evident proof, according to Dr Percival, of a chemical change in the sulphuret, by which the mercury was restored to its original powers. That mercury is capable of being reduced to the metallic form, and of collecting in considerable quantity in the human body, is proved by the concurrent testimony of many authors, who inform us that fluid mercury has been found in the carious bones of venereal patients. A salivation is sometimes produced by antimony. Dr James assured Sir George Baker, that he knew six instances of its being produced by his febrile powder, though he had left mercury out of its composition long before they occurred. Indeed, as the patients thus affected had neither their teeth loosened, nor their breath rendered offensive, there is no reason to suppose that the salivation was owing to a mixture of mercury in the powder.

Most persons have experienced the effects of asparagus on the urine. This takes place very speedily and strongly, though only a small quantity has been eaten. The smell is much more disagreeable than asparagus itself; and as the odorous particles conveyed to the kidneys must be greatly diluted in their passage, it is probable that a new combination of particles takes place in the urinary organs; and that the odorous part of the secretion differs in its form and quality, from what subsisted both in the chyle and in the blood.

There are certain medicines which, when swallowed, quickly manifest themselves in the discharges, with

Therapeutics. some of their original qualities. A strong solution of potash, when taken in considerable quantities, renders the urine alkaline and lithontriptic, and the same excretion becomes impregnated with carbonic acid, if water impregnated with that acid be drunk freely. Dr Percival speaks of a patient to whom six grains of balsam of Tolu were given thrice a day, and whose urine was strongly scented by this small quantity. Garlick affects the breath, though it be applied only about the wrists; and the milk of a nurse is easily tainted with it. A purgative given to a woman that suckles will sometimes produce no effect on her bowels, but will operate strongly on those of her infant. A still more convincing proof that there may be a renovation of the original qualities of a body, after it has undergone the process of digestion, and other subsequent changes, is deducible from these facts; that butter is often impregnated with the taste and smell of certain vegetables on which the cows have pastured; that the milk of such cows discovers no disagreeable flavour, any more than the whey or cheese prepared from it. Now, butter is formed, first by a spontaneous separation of cream, and secondly, by a fermentation of it; that is, by a twofold and successive new arrangement of its elementary parts. By these changes, the originally offensive materials in the food of the cow seem to reassume their proper form and nature.

After venesection the serum of the blood has sometimes appeared as white as milk, whilst the crassamentum retained its natural colour. This whiteness has been shewn to arise from oleaginous particles floating in the circulating fluids, and may serve to explain a fact recorded by a writer of good authority, on the natural history of Aleppo, that in certain seasons, when oil is plentifully taken, the people become disposed to fevers, and infarctions of the lungs, which symptoms wear off by retrenching this indulgence. Some years ago cod-liver oil was annually dispensed amongst the sick of the Manchester hospital, to the amount of 50 or 60 gallons. The taste and smell are extremely nauseous, and it leaves upon the palate a savour like that of putrid fish. This remedy is more salutary when it operates by perspiration; and the sweat of those to whom it is administered, always becomes strongly tainted with it. An oil of the same kind forms no inconsiderable part of the food of many northern nations; and it is said to penetrate and imbue the deepest recesses of the body.

Dr Wright relates an experiment to prove that chalybeates do not enter the blood. He forced a dog that had fasted 66 hours, to swallow a pound of bread and milk, with which had been mixed an ounce and a half of sulphate of iron. An hour afterwards he opened the dog, and collected from the thoracic duct about half an ounce of chyle, which assumed no change of colour when tincture of galls was dropped into it, though it acquired from the same tincture a deep purple, when a quarter of a grain of sulphate of iron was dissolved in it. This experiment is usually deemed decisive in support of the opinion that chalybeates exert their operation solely on the stomach, and that the vigour they communicate to the system arises exclusively from their tonic powers on the alimentary canal, and from the sympathy of the stomach with various other parts of the body. Dr Percival was of opinion, that the tonic action and sympathy above mentioned, did



Therapeutics. not preclude the immediate agency of the steel on the remote parts of the human frame, as this remedy, in other forms capable of being introduced into the circulation, may exert considerable energy as a stimulant or astringent; and, in his opinion, the experiment adduced proves that the iron did not exist in the chyle, in the state of a salt capable of striking a black colour with galls. Neither does the oxide of iron, nor the glass of iron, possess this power, yet, though changed, they are both capable of being restored to the metallic state. Perhaps with equal reason it might be presumed by one ignorant of chemistry, that the sulphate of iron contains no iron, because it is not acted on by the magnet.

With the foregoing experiments of Dr Wright, Dr Percival contrasts those made by the celebrated Dr Musgrave, who injected into the jejunum of a dog that had, for a day before, but little meat, about 12 ounces of a solution of indigo in fountain water, and, after three hours, opening the dog a second time, he observed several of the lacteals of a bluish colour, which, on stretching the mesentery, did several times disappear, but was most easily discerned when the mesentery lay loose; an argument that the bluish liquor was not properly of the vessels, but of the liquors contained in it. A few days after this, repeating the experiment in another company, with a solution of stone blue in fountain water, and on a dog that had been kept fasting 36 hours, he saw several of the lacteals become of a perfect blue colour, within very few minutes after the injection. For they appeared before he could sew up the gut.

About the beginning of March following, having kept a spaniel fasting 36 hours, and then syringing a pint of deep decoction of stone blue with common water, into one of the small guts; and after three hours, opening the dog again, he saw many of the lacteals of a deep blue colour: several of them were cut, and afforded a blue liquor, some of the decoction running forth on the mesentery. After this he examined the *ductus thoracicus*, and saw the receptaculum chyli, and that ductus, of a bluish colour; not so blue indeed as the lacteals, from the solution mixing; in or near the *receptaculum*, with *lymphæ*, but much bluer than the *ductus* used to be, or than the lymphatics under the liver were, with which he compared it.

Stone blue is a preparation of cobalt, potash, and white lead, which being converted into glass, is ground into fine powder. If such a substance can pervade the lacteals, we may conclude that they are permeable to other bodies, besides those designed for nutrition, and capable of assimilation with the blood. This argument from analogy, receives great additional force from the known fact that mercury, and various other active remedies, may be conveyed into the body through the absorbents of the skin, a system of vessels similar to those above mentioned, in their structure, uses, and termination. In a case of *hydrocephalus internus*, on which Dr Percival was consulted, a child under one year of age received, by successive frictions, 4 ounces 6 drams and 2 scruples of strong mercurial ointment between the 8th of February and the 7th of April 1786. One scruple was administered each time; the operation took up more than half an hour, and the part to which the ointment was applied, was always previously bathed

with warm water; precautions which seemed to secure the full absorption of the mercury. The child recovered without any symptoms of salivation, and continued perfectly well. The doctor repeatedly observed, that very large quantities of mercurial ointment may be used in infancy and childhood, without affecting the gums, notwithstanding the predisposition to a flux of saliva, at a period of life incident to dentition.

Whence is it that a medicine so irritating as mercury, can be conveyed into the course of circulation, when even milk, or the mildest liquors, if transfused into the blood vessels, have been found to produce convulsions and death? Is it that what passes by the lymphatic and lacteals is carried into the thoracic duct, and there mixed with a large portion of the chyle and lymph, by which its acrimony is sheathed and diluted, or its chemical properties changed, before it enters the mass of blood? For the absorbents of the skin, and of the intestines, seem to require a capacity to bear the stimulus of these extraneous bodies to which, in both situations, they are exposed.

3. *Medicines introduced into the course of circulation may affect the general constitution of the fluids; produce changes in their particular qualities; superadd new ones; or counteract the morbid matter with which they may be occasionally charged.*—By observations on the hæmorrhages which have been sustained without destruction to life; from experiments made on animals, by drawing forth all their blood; and by a computation of the bulk of the arteries and veins, the mass of circulating fluids has been estimated at 50 pounds in a middle-sized man, of which 28 pounds are supposed to be red blood. Fluids bearing so large a proportion to the weight of the whole body, have assuredly very important offices in the animal economy. Endued with the common properties of other fluids, they are subject to *mechanical laws*; being variously compounded, they are incident to chemical changes; and, as they are contained in a living vascular system, their motions become subject to the influence of nervous energy\*.

The followers of Dr Brown explain the operation of medicines on the principle of their all acting as stimulants in a greater or less degree. This doctrine, with some modification, is thus detailed by Mr Murray. "Medicines, in general, operate by stimulating the living fibre, or exciting it to motion. This proposition has even been stated as universal, and was received as an axiom, in a system superior, perhaps, to any, in conveying just and precise ideas on the nature of life, and the affections to which it is subject. Medicines, in common with all external agents, are, according to this system, incapable of directly altering the state of the vital power: they can only excite the parts possessed of that power to action; and however diversified their effects may appear to be, such diversities are to be referred merely to the different degrees of force in which they exert the general stimulant power they possess."

"This proposition cannot, however, be received in an unlimited sense. From the exhibition of different medicines, very different effects are produced, which cannot be satisfactorily explained from the cause assigned,—the difference in the *degree* of stimulant operation. They differ in *kind* so far, that even in the greater number of cases, one remedy cannot by any management of dose

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Medicines act on fluids.

\* See Percival's Essays, vol. ii.

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Murray's account of the action of medicines.



Therapeu- dose or administration, be made to produce the effects  
tics. which result from the action of another.

“ It is therefore necessary to admit of some modifications of the general principles above stated, and the following are perhaps sufficient to afford grounds for explaining the operation of remedies, and for establishing a classification of them sufficiently just and comprehensive.

“ 1. Stimulants are not to be regarded as differing merely in the degree of the stimulant operation which they exert. An important distinction exists between them, as they are more or less diffusible and permanent in their action. A stimulus is termed diffusible, which, whenever it is applied, or at least in a very short time after, extends its action over the whole system, and quickly produces its full exciting effect. A diffusible stimulus is generally also transient in its action; in other words, the effect, though soon produced, quickly ceases. There are others, on the contrary, which, though equally powerful stimulants, are slow and permanent. These varieties, which are sufficiently established, serve to explain the differences in the power of a number of the most important medicines; and they lay the foundation for the distinction of two great classes, narcotics and tonics, with their subordinate divisions of antispasmodics and astringents, both consisting of powerful stimulants; the one diffusible and transient, the other slow and permanent in their operations.

“ There is a difference between stimulants, in their actions being directed to particular parts. Some, when received into the stomach, quickly act upon the general system: others have their action confined to the stomach itself, or at least, any farther stimulant effect they may occasion is slow and inconsiderable; while a third class consists of those which operate on one part, often without producing any sensible effect on the stomach or general system. Some thus act on the intestinal canal, others on the kidneys, bladder, vessels of the skin, and other parts; the affection they excite in these, being the consequence, not of any stimulant operation equally extended over every part, but of one more particularly determined. This difference in the action of stimuli is the principal foundation of the distinctions of medicines into particular classes. Cathartics, for instance, are those medicines which, as stimuli, act peculiarly on the intestinal canal; diuretics, those which act on the secreting vessels of the kidneys; emmenagogues, those which act on the uterine system; diaphoretics, those which exert a stimulant action on the vessels of the skin. With these operations, medicines, at the same time, act more or less as general stimulants, by which each individual belonging to any class is thus rendered capable of producing peculiar effects; and many of them, by a peculiarity of constitution in the patient, or from the mode in which they are administered, frequently act on more than one part of the system, by which their effects are still farther diversified. Medicines, when thus determined to particular parts, are sometimes conveyed to those parts in the course of the circulation; more generally their action is extended from the stomach, or part to which they are applied, by the medium of the nervous system\*.”

\* Elements of Materia Med. and Phar. vol. i. p. 95. Whatever medical system we may adopt, it is obvious that medicines can act on the human system only in two general modes; either as it is composed of inert

Therapeu- matter, or as it forms a living organized system. In the  
tics. first mode, medicines may act either mechanically or chemically; in the second, they act entirely through the medium of the vital principle.

The order in which the several subjects of the materia medica have been considered, is very different in different writers; and which is the most proper, has been disputed about, while many are of opinion that it is of little consequence which of them is followed. It has been generally thought proper to follow a plan, in which the subjects are, according to a certain affinity, brought together, so that a number of them might be, for the purpose of medicines, considered under the same view. Thus, Dr Boerhaave considered them in the order of the botanical system he had formed, and Linnæus in the order of his own system, in which he is followed by Bergius.

It has been thought proper to follow the botanical affinities, in so far only as they can be thrown into natural orders; and this, therefore, has been attempted by the learned Professor Murray of Gottingen: but from the imperfection of the botanical affinities in pointing out a similarity of medicinal virtues, this plan will not always unite subjects in the latter point of view; and when we consider that there are yet many plants which do not enter into any natural order, these must be disposed of in an arbitrary manner, and probably in an unconnected state. It must be owned, however, that though the scheme of botanical affinities does not entirely answer the purpose, yet it will still go a certain length, and ought not to be neglected in the subdivision of any general plan that may be assumed.

It has been supposed by some to be a more eligible plan to unite the several substances, as they happen to be related by their sensible qualities; this method Cartheuser and Gleditsch have attempted. This certainly may have its use; but from what is said above respecting the imperfection of this scheme for investigating virtues, it will appear that it will not always unite subjects that ought to be united under the same view; and it will be found, that in the authors mentioned, who have executed it in the best manner possible, the desired effect is by no means produced.

From the difficulty of rendering any of those plans tolerably exact and perfect, some writers have deserted all of them, and thought it best to throw the several articles into an alphabetical order, as Newmann and Lewis have done. If, however, there can be any advantage from bringing subjects of some affinity together, this alphabetical order is the most unfit for the purpose, as by separating similar substances, it must be perpetually distracting to the student. It can therefore have no advantage but that of a dictionary, in referring readily to any particular subject that may be enquired after; but this advantage can be obtained in every plan by means of an index, which cannot be saved even in an alphabetical work, as the different names under which the same substances are known necessarily requires an index comprehending all those different names.

Similar to those of the alphabetical order, are those plans which, after arranging the several articles of the materia medica according to the part of the plant employed, as roots, leaves, &c. have thrown these again into an alphabetical order, as Alston and Vogel have done;



Therapeu-  
tics.

done; but it is obvious that this establishes no connexion between the subjects that follow one another, and can have no advantage over the alphabetical order. Further, by separating the consideration of the several parts of vegetables, it will both separate subjects that ought to be considered together, and will occasion unnecessary repetition.

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Arrangement according to medical effects.

Dr Cullen was of opinion that, as the study of the materia medica is truly the study of the medicinal virtues, so the plan that arranges the several substances according to their agreeing in some general virtues, will be the best adapted to acquiring the knowledge of these, and will most readily inform the practitioner what different means he can employ for his general purpose. It will also inform him how far the several similar substances may differ in their degree of power, or how far, from the particular qualities assigned to each, he may be directed or limited in his choice.

As it seems proper that every practitioner ought, as far as possible, to practise upon general indications; so it is evident that his study of the materia medica is especially to know the several means that can answer these. Such a plan, therefore, must be the most proper for giving a student instruction; and if, while medicines are arranged according as they answer general indications, the particulars be likewise thrown together as far as possible according to their sensible qualities and botanical affinities, this plan will have the advantage of any other that has been proposed for presenting together the subjects that ought to be considered at one and the same time, and give the best means of recollecting every thing that relates to them.

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Cullen's arrangement.

Dr Cullen's plan of arrangement is as follows.

He first divides all the substances contained in the materia medica into two general heads, the first comprising alimentary substances, or meats, drinks, and condiments; the second comprising medicines properly so called. These latter he considers as they act on the solids or the fluids. Those which act on the solids he distinguishes into such as act on the simple solids, under which he ranks astringents, tonics, emollients, and escharotics; and those which act on the living solids, under which he classes stimulants, sedatives, including narcotics, refrigerants, and antispasmodics. Of those medicines which act on the fluids, he conceives that some operate by producing a change on their fluidity, as attenuants and inspissants; or, on the mixture of their component parts, by correcting acrimony, either in general, as demulcents, or in particular as antacids, antalkalines, and antiseptics. Others he supposes to act by producing an evacuation of superabundant fluids; and under this head he includes errhines, sialagogues, expectorants, emetics, cathartics, diuretics, diaphoretics, and emmenagogues.

In his general classification, Dr Cullen has been followed by several writers on the materia medica and therapeutics. Some of the titles of his classes have indeed become obsolete, and his order has been almost totally changed by succeeding writers.

Of those who have copied Dr Cullen's arrangement with some modification, there is perhaps none that deserves more attention than the anonymous author of the "Thesaurus Medicaminum," and a "Practical synopsis of the materia alimentaria and materia medica." This au-

thor distributes the articles of the materia medica into 12 classes; 1. Evacuants, comprising errhines, sialagogues, expectorants, emetics, cathartics, diuretics, diaphoretics, emmenagogues; 2. Emollients, comprising diluents and emulcents; 3. Absorbents; 4. Refrigerants; 5. Antiseptics; 6. Astringents; 7. Tonics; 8. Stimulants; 9. Antispasmodics; 10. Narcotics; 11. Anthelmintics; and 12. Heteroclitics; this last being formed to include those articles that could not properly be reduced under the former heads.

On this classification we may remark, that the general term of evacuants might have been omitted, and its subdivisions might have properly been made distinct classes, as the articles they contain frequently act a more important part, than merely producing an evacuation of fluids. The class of *absorbents* includes those which Cullen calls antacids, and perhaps this latter term is to be preferred, as it is more explicit and better understood. The class *antiseptics* might also have been omitted, and the substances it contains might more properly have been arranged under other heads.

Mr Murray's arrangement, which is very ingenious, is founded principally on the doctrine of universal stimulus, and he thus explains the principles on which it is established.

134  
Mr Murray's arrangement.

"Those stimulants, which exert a general action on the system, may first be considered. Of these there are two well-marked subdivisions, the diffusible and the permanent; the former corresponding to the usual classes of narcotics and antispasmodics; the latter, including likewise two classes, tonics and astringents. In these there is a gradual transition passing into the one from the other, from the most diffusible and least durable stimulus, to the most slow and permanent in its action.

"The next general division is that comprising local stimulants; such are the classes of emetics, cathartics, expectorants, sialagogues, errhines, and epispastics. These all occasion evacuation of one kind or other, and their effects are in general to be ascribed, not to any operation exerted on the whole system, but to changes of action induced in particular parts.

"After these, those few medicines may be considered whose action is merely mechanical or chemical. To the former belong diluents, demulcents, and emollients. Anthelmintics may perhaps be referred with propriety to the same division. To the latter, or those which act chemically, belong antacids or absorbents, lithontriptics, escharotics, and perhaps refrigerants.

"Under these classes may be comprehended all those substances capable of producing salutary changes in the human system. Several classes are indeed excluded which have sometimes been admitted; but these have been rejected, either as not being sufficiently precise or comprehensive, or as being established only on erroneous theory.

"The subdivisions of these classes may sometimes be established on the natural affinities existing among the substances arranged under each; on their chemical composition; their resemblance in sensible qualities; or, lastly, on distinctions in their medicinal virtues, more minute than those which form the characters of the class. In different classes one of these methods will frequently be found preferable to any of the others."

Mr



Therapeutics. Mr Murray's arrangement will best be understood from his own table.

Therapeutics. IV. Water, river-water, spring-water, calcareous earth.

A. GENERAL STIMULANTS.

- a. Diffusible. { Narcotics.
- { Antispasmodics.
- b. Permanent. { Tonics.
- { Astringents.

B. LOCAL STIMULANTS.

- Emetics.
- Cathartics.
- Emmenagogues.
- Diuretics.
- Diaphoretics.
- Expectorants.
- Sialagogues.
- Errhines.
- Epispastics.

C. CHEMICAL REMEDIES.

- Refrigerants.
- Antacids.
- Lithontriptics.
- Escharotics.

D. MECHANICAL REMEDIES.

- Anthelmintics.
- Demulcents.
- Diluent.
- Emollients.\*

V. Air, oxygen, azote, carbonic acid gas.

VI. Nutritive baths and clysters, transfusion of blood.

VII. Condiments.

Under *incitantia* (or stimulants) he ranks the following articles.

I. Papaver somniferum, poppy, opium.

Alcohol, wine, beer, cyder.

Prunus lauro-cerasus, *laurel*; distilled water from the leaves.

Prunus cerasus, *black cherry*; distilled water from the kernels.

Nicotiana tabacum, *tobacco*? the essential oil, decoction of the leaf.

Atropa belladonna, *deadly nightshade*; the berries.

Datura stramonium, *thorn apple*; the fruit boiled in milk.

Hyoscyamus reticulatus, *henbane*; the seeds and leaves.

Cynoglossum, *hounds-tongue*.

Menispermum, cocculus, *Indian berry*.

Amygdalus amarus, *bitter almond*.

Cicuta, *hemlock*. Conium maculatum?

Strychnos nux vomica?

Delphinium staphisagria?

II. Externally, heat, electricity.

III. Ether, essential oils.

IV. Oxygen gas.

V. Passions of love, joy, anger.

VI. Labour, play, agitation, friction.

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Incitantia.

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The *secernentia* he distinguishes into diaphoretics, sialagogues, mild diuretics, mild cathartics, mild errhines, which, as they will be enumerated presently, it is unnecessary to mention here; and besides these, he enumerates the following circumstances acting on the other secretions.

Secretion of mucus of the rectum is increased by cantharides, by spirit of turpentine.

Secretion of subcutaneous mucus is increased by blisters of cantharides, by application of a thin slice of the fresh root of white briony, by sinapisms, by root of horse-radish, cochlearia armoracia, *volatile alkali*.

Secretion of tears is increased by vapour of sliced onion, of volatile alkali. By pity, or ideas of hopeless distress.

Secretion of sensorial power in the brain is probably increased by opium, by wine, and perhaps by oxygen gas added to the common air in respiration.

The *sorbentia* he divides into those which affect the skin, as sulphuric or muriatic acids, various acid fruits, and opium; and the oxides of lead, zinc, and mercury, applied externally.

II. Such as affect the mucous membranes, as the juice of sloes and crab-apples, cinchona, and opium, internally; and externally the sulphate of copper.

III. 1. Such as affect the cellular membrane, as Peruvian bark; wormwood, *artemisia maritima*, *artemisia absinthium*; worm-seed, *artemisia santonicum*; chamomile, *anthesis nobilis*; tansey, *tanacetum*; bogbean, *menyanthes trifoliata*; centaury, *gentiana centaurum*; gentian,

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Sorbentia.

\* Murray's Elements.

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Darwin's arrangement.

It would be improper here to omit the classification of the ingenious Dr Darwin, which was published in his *Zoonomia*. He distributes the articles of the materia medica under seven heads, according to his opinion of their mode of operation. They are as follows.

1. *Nutrientia*, or those things which preserve in their natural state the due exertions of all the irritative motions.

2. *Incitantia*, or those things which increase the exertions of all the irritative motions.

3. *Secernentia*, or those things which increase the irritative motions which constitute secretion.

4. *Sorbentia*, or those things which increase the irritative motions which constitute absorption.

5. *Invertentia*, or those things which invert the natural order of the successive irritative motions.

6. *Revertentia*, or those things which restore the natural order of the inverted irritative motions.

7. *Torquentia*, those things which diminish the exertions of all the irritative motions.

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Nutrientia. The *nutrientia* he thus enumerates according to what he conceives to be their degree of nourishing power.

I. 1. Venison, beef, mutton, hare, goose, duck, woodcock, snipe, moor-game.

2. Oysters, lobsters, crabs, shrimps, mushrooms, eel, tench, barbot, smelt, turbot, sole, turtle.

3. Lamb, veal, sucking-pig.

4. Turkey, partridge, pheasant, fowl, eggs.

5. Pike, perch, gudgeon, trout, grayling.

II. Milk, cream, butter, butter-milk, whey, cheese.

III. Wheat, barley, oats, pease, potatoes, turnips, carrots, cabbage, asparagus, artichoke, spinach, beet, apple, pear, plum, apricot, nectarine, peach, strawberry, grape, orange, melon, cucumber, dried figs, raisins, sugar, honey. With a great variety of other roots, seeds, leaves, and fruits.



Therapeutic. <sup>tics.</sup> <sup>139</sup> gentiana lutea; artichoke leaves, *cynara scolymus*;

hop, *humulus lupulus*.

2. Orange peel, cinnamon, nutmegs, mace.
3. Vomits, squill, digitalis, tobacco.
4. Bath of warm air, of steam.

IV. Such as affect the veins, as water-cress, *sfybrum nasturtium aquaticum*; mustard, *sinapis*; scurvy-grass, *cochlearia hortenſis*; horſe-radish, *cochlearia armoracia*; cuckoo-flower, *cardamine*; dog's-grass; dandelion, *leontodon taraxacon*; cellery, *apium*; cabbage, *brassica*. Chalybeates, bitters, opium, after ſufficient evacuation; and externally vinegar, friction and electricity.

V. Such as affect the inteſtines, including ſeveral aſtringents, and of the antacid earths.

VI. Such as affect the liver, ſtomach, and other viſcera, as oxide of iron, filings of iron, ſulphate of iron, ſulphate of copper, ſulphate of zinc, calomel, tartrate of antimony and poſaſh, acetate of lead, and white aſſenic.

VII. Such as affect venereal ulcers, including various preparations of mercury.

VIII. Such as affect the whole ſyſtem, as evacuations by venefection and cathartics, followed by the exhibition of opium.

IX. External *ſorbentia*, as ſolutions of mercury, zinc, lead, copper, iron, aſſenic, or metallic oxides applied in dry powder. Bitter vegetables in decoctions and in dry powders, applied externally; as Peruvian bark, oak bark, leaves of wormwood, of tanſey, chamomile flowers or leaves. Electric ſparks or ſhocks.

X. Bandage ſpread with *emplaſtrum à minio*, or with carpenter's glue mixed with one-twentieth part of honey.

XI. Portland's powder, and the uſe of hops in beer, both of which, when continued, are pernicious.

<sup>140</sup> <sup>Invertentia.</sup> Under the claſs of *invertentia* Dr Darwin ranks the ordinary emetics, violent cathartics, violent errhines and ſialagogues; violent diuretics, and cold ſudorifics, ſuch as poiſons, fear, and approaching death.

<sup>141</sup> <sup>Revertentia.</sup> His catalogue of *revertentia*, is as follows.

Inverted motions which attend the hysteric diſeaſe, are reclaimed, 1. By muſk, caſtor. 2. By aſafœtida, galbanum, ſagapenum, ammoniacum, valerian. 3. Eſſential oils of cinnamon, nutmeg, cloves, infuſion of pennyroyal, *mentha pulegium*, peppermint, *mentha piperita*, ether, camphor. 4. Spirit of hartſhorn, *oleum animale*, ſponge burnt to charcoal, black ſnuffs of candles, which conſiſt principally of animal charcoal, wood-foot, oil of amber. 5. The *incitantia*, as opium, alcohol, vinegar. 6. Externally the ſmoke of burnt feathers, oil of amber, volatile ſalt applied to the noſtrils, bliſters, ſinapiſms.

II. Inverted motions of the ſtomach are reclaimed by opium, alcohol, bliſters, crude mercury, ſinapiſm, camphor and opium externally, clyſters with aſafœtida.

III. Inverted motions of the inteſtinal lymphatics are reclaimed by mucilaginous diluents, and by inteſtinal *ſorbentia*, as rhubarb, logwood, calcined hartſhorn, Armenian bole; and, laſtly, by *incitantia*, as opium.

IV. Inverted motions of the urinary lymphatics are reclaimed by cantharides, turpentine, roſin, the ſorben-

tia, and opium, with calcareous earth, and earth of Therapeutic. <sup>tics.</sup>

V. Inverted motions of the inteſtinal canal are reclaimed by calomel, aloe, crude mercury, bliſters, warm bath, clyſters with aſafœtida, clyſters of ice water? or of ſpring water further cooled by ſalt diſſolved in water contained in an exterior veſſel? Where there exiſts an introſuſception of the bowel in children, could the patient be held up for a time with his head downwards, and crude mercury be injected as a clyſter to the quantity of two or three pounds?

<sup>142</sup> The *torpentia* he divides into 13 general heads. 1. Torpentia. Venefection and arteriotomy; 2. Cold water, cold air, and the reſpiration of air with a diminished proportion of oxygen; 3. Vegetable mucilages; 4. Vegetable acids; 5. Animal mucus, hartſhorn jelly, veal and chicken broth, and perhaps oil, fat and cream? 6. Mineral acids; 7. Silence and darkneſs; 8. Invertentia in ſmall doſes, as nitre, emetic tartar, and ipecacuanha, given ſo as to induce nauſea; 9. Antacids, as ſoap, alkalies, and earths; 10. Medicines preventive of fermentation, as ſulphuric acid; 11. Anthelmintics; 12. Lithontriptics; and, 13. Various external remedies, as the warm bath, poultices, oil, fat, wax, plaſters, oiled ſilk, and carbonic acid gas on cancers and other ulcers.

We were for ſome time at a loſs what arrangement we ſhould follow in the preſent article. It was evidently neceſſary to adopt one that ſhould, as much as poſſible, prevent repetition; and it therefore appeared improper to treat particularly of the articles of the materia medica under the uſual claſſes. The alphabetical order would prevent repetition; but it ſeemed little adapted to the plan of a ſyſtematic treatiſe. On the whole, we have judged it beſt to arrange the individual articles in two methods; 1ſt, Into claſſes according to their ſuppoſed operation on the ſyſtem; and in this view conſider their general uſes; and, 2dly, To treat of them more particularly under an arrangement ſimilar to that of Linnæus. In the remainder of this part of the article, we ſhall therefore conſider the general action and uſe of the various claſſes of remedies, adopting, with the excluſion of *emmenagogues*, the arrangement followed in Dr Kirby's Tables of the Materia Medica; and in a ſucceeding part we ſhall conſider the individual articles under the four heads of animal, vegetable, mineral, and galeous ſubſtances.

## CLASS I. EMETICS.

<sup>143</sup> Emetics are ſuch medicines as are calculated to ex- Definition cite vomiting, and thus diſcharge the contents of the of emetics. ſtomach.

### TABLE of EMETICS.

#### I. ANIMAL PRODUCTS.

Murias ammoniæ, *muriate of ammonia*.

Aqua carbonatis ammoniæ, *water of carbonate of ammonia*.

#### II. VEGETABLE PRODUCTS.

Anthemis nobilis, *chamomile flowers*.

Aſarum europeum, *aſarabacca*.

Centaurea benedicta, *holy thiſtle*.

Cephaëlis



Therapeu-  
ticsCephaëlis ipecacuanha, *ipeacacuanha*.Vinum ipecacuanhæ, *ipeacacuanha wine*.Nicotiana tabacum, *tobacco in clysters*.Olea europea, *olive oil*.Scilla maritima, *squill*.Acetum scillæ maritimæ, *vinegar of squills*.Sinapis alba, *mustard*.

## III. MINERAL PRODUCTS.

Sulphas cupri, *sulphate of copper*.Sulphuretum antimonii, *sulphuret of antimony*.Oxidum antimonii cum sulphure vitrificatum, *vitri-  
fied oxide of antimony with sulphur*.Vinum antimonii, *antimonial wine, L.*Tartaris antimonii, *tartrate of antimony*.Vinum tartaritis antimonii, *wine of tartarified anti-  
mony*.Sulphas zinci, *sulphate of zinc*.145  
Effects and  
uses of eme-  
tics.

The general effects produced by emetics are, a sensation of uneasiness in the stomach, followed by sickness, retching and vomiting. During the nausea, the pulse is feeble, quick, and sometimes irregular, and the countenance is pale; but when the vomiting comes on, the pulse grows quicker, and the face flushed. After the vomiting has ceased, the sickness or nausea commonly goes off entirely, though it sometimes remains in a distressing degree. The patient feels languid, heavy, and disposed to sleep. The skin usually feels moist, and the pulse continues weak for some time, but gradually grows fuller and slower.

To consider emetics merely as evacuants of the stomach, would be to take a very contracted and imperfect view of their effects; for if traced through the whole of their operation in the various diseases in which they are employed, their influence over the human body appears so manifold and extensive, that they may be justly reckoned amongst the most powerful instruments which the Materia Medica affords. Hence, besides their use as cleansers of the alimentary canal, they serve to induce sweating in fevers; to favour expectoration in disorders of the lungs; to promote absorption in cases of dropsy; and to remove certain obstructed conditions of the viscera, such as jaundice and suppression of the menses; also in cases of glandular and lymphatic obstructions, and in some cases of pulmonary consumption. By means of their peculiar action on the nervous and vascular system, they allay the spasms in asthma, and check the discharge of blood in hæmorrhages from the lungs and uterus. In the first of these, viz. in spitting of blood, they have been given with advantage by Dr Robinson, and still more lately by Dr Stoll of Vienna; who says, that in such cases ipecacuanha sometimes acts like a charm, seeming to close the open vessels of the lungs sooner and more effectually than any other remedy. In the other, viz. in uterine hæmorrhagy, small doses only of these medicines, so as to excite sickness, but not vomiting, are found to answer best. But in both these instances they should be administered with caution, since it sometimes happens that they do more harm than good. Dr Cullen once met with an accident of this kind, in which the vomiting increased the hæmorrhagy to a great and dangerous degree.

Dysentery is to be added to the number of diseases in which emetics have a peculiarly beneficial effect.

When there is much visceral inflammation; where there are symptoms of great accumulation in the vessels of the head; in the advanced stages of pregnancy, and in cases of intestinal hernia, medicines of this class are to be avoided. And, in general, persons who have weak and delicate stomachs should be cautious of employing them too freely, since, as Dr Cullen has remarked, frequent vomiting renders the stomach less fit to retain what is thrown into it, and even weakens its powers of digestion.\*

Therapeu-  
tics\* Thesau-  
rus Medi-  
caminum,  
3d edition,  
p. 32.

## CLASS II. EXPECTORANTS.

Those medicines are called expectorants, that are employed to promote the excretion of pus or mucus from the windpipe and lungs. In general they are emetics given in smaller doses, though there are several medicines, especially some of the gum resins, that are considered to act in this way, without any tendency to excite vomiting.

The following articles are usually employed in this country as expectorants.

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Definition  
of expecto-  
rants.147  
Table of  
expecto-  
rants.

## I. VEGETABLE PRODUCTS.

Cephaëlis ipecacuanha, *ipeacacuanha*.Nicotiana tabacum, *tobacco*.Scilla maritima, *squill*.Acetum scillæ maritimæ, *vinegar of squill*.Syrupus scillæ maritimæ, *syrup of squills*.Oxymel scillæ, *oxymel of squill*.Tinctura scillæ, *tincture of squill*.Pilulæ scilliticæ, *squill pills*.Conserva scillæ, *conserve of squill*.Allium sativum, *garlic*.Syrupus allii, *syrup of garlic*.Ammoniacum, *gum ammoniac*.Lac ammoniaci, *milk of ammoniac*.Arum maculatum, *wake-robin*.Conserva ari, *conserve of arum*.Colchicum autumnale, *meadow saffron*.Syrupus colchici autumnalis, *syrup of colchi-  
cum*.Oxymel colchici, *oxymel of colchicum*.Ferula asafœtida, *asafœtida*.Lac asafœtidæ, *milk of asafœtida*.Hyssopus officinalis, *hyssop*.Marrubium vulgare, *horehound*.Myrrha, *myrrh*.Pimpinella anisum, *aniseed*.Oleum volatile pimpinellæ anisi, *oil of aniseed*.Polygala senega, *seneka root*.Decoctum polygalæ senegæ, *decoction of seneka*.Styrax benzoin, *benjamin*.Acidum benzoicum, *benzoic acid*.Tinctura benzoës compofita, *compound tincture of  
benjamin*.Alcohol, *spirit of wine*.Æther sulphuricus, *sulphuric æther*.

## II. MINERAL PRODUCTS.

Sulphuretum antimonii, *sulphuret of antimony*.

Tartaris



Tartris antimonii, *tartrite of antimony.*

Vinum tartritis antimonii, *wine of tartrite of anti-  
mony.*

Sulphuretum antimonii precipitatum, *precipitated  
sulphuret of antimony.*

Sulphur sublimatum, *flowers of sulphur.*

Sulphur sublimatum lotum, *washed flowers of sul-  
phur.*

Oleum sulphuratum, *sulphurated oil.*

Petroleum sulphuratum, *sulphurated petroleum.*

Trochisci sulphuris, *sulphur lozenges.*

### III. GASEOUS PRODUCTS.

Gas hydrogenium, *hydrogen gas.*

Gas hydrogenium carbonatum, *carbonated hydro-  
gen gas.*

Vaporis aque calidæ inhalatio, *inhaling the steams  
of warm water.*

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Effects and  
uses of ex-  
pectorants.

The mode in which expectorants promote the excretion of pus or mucus from the lungs, does not appear to be well understood. Some suppose that those which are properly emetic, operate by the sympathy that exists between the stomach and lungs, and that the rest operate by some specific action. Mr Murray supposes that there are various modes of operation by which certain remedies will appear to promote expectoration, and which will give them a claim to the title of expectorants.

Thus, in certain diseases the exhalant vessels in the lungs seem to be in that state, by which the exhalation of fluid is lessened, or nearly stopped, and in such cases expectoration must be diminished. Any medicine capable of removing that constricted state, will appear to promote expectoration, and will at least relieve some of the symptoms of the disease. It is apparently by such a mode of operation, that antimony, ipecacuanha, squill, and some others, promote expectoration in pneumonia, catarrh, and asthma, the principal diseases in which expectorants are employed.

There is a case of an opposite kind, that in which there is a redundancy of mucus in the lungs, as occurs in humoral asthma, and *catarrhus fœnalis*. In these affections, certain expectorants are supposed to prove useful. If they do so, it is probably by being determined more particularly in their action to the pulmonary vessels, and by their moderate stimulus diminishing the secretion, or increasing the absorption, thus lessening the quantity of fluid, and thereby rendering the expectoration of the remainder more easy. The determination of these substances to the lungs is often perceptible by their odour in the air expired. A similar diminution of fluid in the lungs may be effected by determining to the surface of the body; and those expectorants which belong to the class of diaphoretics probably act in this manner.

Expectorants, then, are to be regarded, not as medicines which directly assist the rejection of a fluid already secreted, but rather as either increasing the natural exhalation where it is deficient, or diminishing the quantity of fluid where it is too copious, either by stimulating the pulmonary vessels, or by determining to the surface. In both cases expectoration will appear to be promoted or facilitated. \*

\* Murray's  
Elements,  
vol. i.  
p. 326.

The definition of these remedies points out the cases to which they are applicable, viz. those in which an accumulation of pus or mucus takes place in the bronchial cells, as catarrh, pneumonia in its suppurative stage, peripneumonia notha, asthma, and phthisis pulmonalis or consumption.

### CLASS III. DIAPHORETICS.

Diaphoretics are those remedies that are intended to promote, keep up, or restore the excretion of perspirable matter from the skin; and of these some act but feebly, and only increase the insensible perspiration, while others act more powerfully, and under favourable circumstances, excite sweating. Hence we may divide them into two orders.

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Definition  
of diapho-  
retics.

#### A. THE Milder DIAPHORETICS.

##### I. ANIMAL PRODUCTS.

Murias ammoniæ.

Aqua carbonatis ammoniæ.

Carbonas ammoniæ, *carbonate of ammonia.*

Alcohol ammoniatum, *ammoniated alcohol.*

##### II. VEGETABLE PRODUCTS.

Anthemis nobilis, *chamomile tea.*

Centauræ benedictæ, *holy thistle tea.*

Myrrha.

Allium fativum.

Acidum acetosum, *acetous acid or vinegar.*

Acidum acetum destillatum, *distilled vinegar.*

Aqua aceticis ammoniæ, *water of aceticated am-  
monia.*

Arctium lappa, *burdock decoction.*

Artemisia abrotanum, *southern-wood tea.*

Aristolochia serpentaria, *snake-root.*

Tinctura aristolochiæ serpentariæ, *tincture of snake-  
root.*

Daphne mezereum, *mezezeum.*

Decoctum daphnes mezerei, *decoction of mezezeum.*

Dorstenia contrayerva, *contrayerva.*

Pulvis contrayervæ compositus, *compound powder  
of contrayerva.*

Fumaria officinalis, *fumitory.*

Laurus cassiæ, *sassafras tea.*

Salvia officinalis, *sage tea.*

Sambucus nigra, *elder.*

Succus bacci sambuci spissatus, *inspissated juice of  
elder.*

Smilax sarsaparilla, *sarsaparilla.*

Decoctum smilacis sarsaparillæ, *decoction of sar-  
saparilla.*

Solanum dulcamara, *bitter sweet decoction.*

Supertartras potassæ, *supertartrate of potash, or cream  
of tartar.*

#### B. STRONGER DIAPHORETICS, OR SUDORIFICS.

##### I. ANIMAL PRODUCTS.

Moschus moschiferus, *musk.*

Mistura moschata, *musk mixture.*

##### II. VEGETABLE



Therapeu-  
tics.

## II. VEGETABLE PRODUCTS.

Aconitum neomontanum, *aconite*.Succus spissatus aconiti napelli, *inspissated juice of aconite*.Guaiacum officinale, *guaiacum wood and resin*.Decoctum guaiaci officinalis compositum, *compound decoction of guaiacum*.Tinctura guaiaci officinalis, *tincture of guaiacum*.Tinctura guaiaci ammoniata, *ammoniated tincture of guaiacum*.Laurus camphora, *camphor*.Mistura camphorata, *camphorated mixture*.Emulsio camphorata, *camphorated emulsion*.Papaver somniferum, *opium*.Tinctura opii, *tincture of opium*.Tinctura opii camphorata, *camphorated tincture of opium*.Tinctura opii ammoniata, *ammoniated tincture of opium*.Pulvis ipecacuanhæ et opii, *powder of ipecacuan and opium*.Rhododendron chrysanthum, *yellow-flowered rhododendron*.

## III. MINERAL PRODUCTS.

Sulphuretum antimonii, *sulphuret of antimony*.Tartris antimonii, *in small doses*.

Vinum tartritis antimonii.

Sulphuretum antimonii præparatum.

Sulphur fibii fuscum, *brown sulphuret of antimony*.Oxidum antimonii cum phosphate calcis, *oxide of antimony with phosphate of lime, or James's powder*.Antimonium calcinatum, *white oxide of antimony*.Calx fibii præcipitatum. D. *Precipitated oxide of antimony, or powder of Algaroth*.Sulphur sublimatum, *flowers of sulphur*.

Sulphur sublimatum lotum.

Sulphur præcipitatum, *precipitated sulphur, or milk of sulphur*.Hydrargyrum, *mercury*.Hydrargyrum purificatum, *purified mercury*.Submuriæ hydrargyri, vel calomelas, *submuriate of mercury, or calomel*.Balneum calidum, *hot bath*.Balneum vaporis, *vapour bath*.151  
Effects and  
uses of dia-  
phoretics.

Diaphoretics act in one of two ways; some by exciting an increased action of the exhalant vessels of the skin immediately, or by sympathy with other parts, as the application of heat, the warm bath, friction, &c. while others promote perspiration, by increasing the general force of the circulating system, and thus acting on the exhalant vessels of the skin.

The action of diaphoretics is assisted by moderate warmth and by tepid diluent liquors frequently taken.

The immediate effects of these medicines are partly a diminution of the quantity of fluids in the body, but principally a change of the determination of blood from other parts to the surface. They perhaps also in-

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crease the action of the absorbents, and thus remove the spasmodic contraction of the subcutaneous vessels.

The cases to which diaphoretic medicines are best adapted, are inflammatory fevers, rheumatism, asthma, dyspepsia, obstinate diarrhoea, and protracted dysentery. They are injurious in typhus fever, especially towards its commencement.

Where the force of the circulation is very great, it is proper, before the exhibition of diaphoretics, to premise the use of some other evacuation, as bleeding or purging.

## CLASS IV. DIURETICS.

These are such medicines as promote or increase the excretion of urine.

The principal diuretics are these.

## I. ANIMAL PRODUCTS.

Lytta vesicatoria, *cantharides*.Tinctura meloes vesicatorii, *tincture of cantharides*.Oniscus asellus, *millepedes, or wood-lice*.

## II. VEGETABLE PRODUCTS.

Asarum europæum, *asarabacca*.Nicotiana tabacum, *tobacco*.Scilla maritima, *squill*.Tinctura scillæ, *tincture of squill*.Colchicum autumnale, *meadow saffron*.Syrupus colchici, *syrup of colchicum*.Oxymel colchici, *oxymel of colchicum*.Acetum colchici, *vinegar of colchicum*.Polygala fenega, *feneca root*.Decoctum polygalæ fenegæ, *decoction of feneca*.Acetum acetosum, *acetous acid*.Acetas potassæ, *acetate of potash*.Daphne mezereum, *mezereum*.Decoctum daphnes mezerei, *decoction of mezereum*.Smilax sarsaparilla, *sarsaparilla*.Decoctum sarsaparillæ compositum, *compound decoction of sarsaparilla*.Solanum dulcamara, *bittersweet*.Supertartras potassæ, *supertartrate of potash*.Allium cepa, *onion*.Cissampelos pareira, *pareira brava*.Cochlearia armoracia, *horse-radish*.Copaifeira officinalis, *balsam of Copaiba*.Cynara scolymus, *artichoke*.Digitalis purpurea, *foxglove*.Juniperus communis, *juniper*.Spiritus juniperi communis compositus, *compound spirit of juniper*.Oleum juniperi communis, *oil of juniper*.Juniperus lycia, *olibanum*.Leontodon taraxacum, *dandelion*.Pinus sylvestris, *common turpentine*.Oleum volatile pini purissimum, *purified oil of turpentine*.Pinus larix, *Venice turpentine*.Spartium scoparium, *green broom*.Ulmus campestris, *elm bark*.Decoctum ulmi, *decoction of elm bark*.Therapeu-  
tics.

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Definition  
of diuretics.

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Table of  
diuretics.



## III. MINERAL PRODUCTS.

Hydrargyrum, *mercury*.Murias hydrargyri, *corrosive muriate of mercury*.Nitras potassæ, *nitrate of potash*.Nitrum purificatum, *purified nitre*.Acidum nitrosum, *nitrous acid*.Spiritus ætheris nitrosi, *spirit of nitrous æther*.154  
Effects and  
uses of diu-  
retics.

The operation of diuretics is greatly promoted by plentiful dilution, which should by no means be withheld from dropical patients, though for many years past, the contrary method has too much prevailed. The medical world is much indebted to Sir F. Milman, for the pains he has taken to shew the propriety of indulging such patients in the free use of liquids. In confirmation of the propriety of this method, the observation of the late Dr Cullen may be added. He has remarked that he always thought it absurd in physicians to employ diuretics while they enjoined an abstinence from drink, which is almost the only means of conveying these diuretics to the kidneys. Whenever, therefore, he employed diuretics, he at the same time advised drinking freely; and he was persuaded that drinking largely often contributed to the cures he made.

It is obvious, says Mr Murray, that a diuretic effect will be produced by any substance capable of stimulating the secreting vessels of the kidneys. All the saline diuretics seem to act in this manner. They are received into the circulation, and passing off with the urine, stimulate the vessels, and increase the quantity secreted.

There are other diuretics, the effect of which appears to arise from direct application, but from an action excited in the stomach, and propagated by nervous communication to the secreting urinary vessels. The diuretic operation of squill, and of several other vegetables, appears to be of this kind.

There is still, perhaps, another mode in which certain substances produce a diuretic effect, that is, by promoting absorption. When a large quantity of watery fluid is introduced into the circulating mass, it stimulates the secreting vessels of the kidneys, and is carried off by the urine. If, therefore, absorption be promoted, and if a portion of serous fluid, perhaps previously effused, be taken up, the quantity of fluid secreted by the kidneys will be increased. In this way digitalis seems to act. Its diuretic effect, it has been said, is greater when exhibited in dropsy, than it is in health.

On the same principle may probably be explained the utility of mercury in promoting the action of several diuretics.

The action of these remedies is promoted by drinking freely of mild diluents. It is also influenced by the state of the surface of the body. If external heat be applied, diuresis is frequently prevented, and diaphoresis produced. Hence the doses of them should be given in the course of the day, and the patient, if possible, be kept out of bed.

The direct effects of diuretics are sufficiently evident. They discharge the watery part of the blood, and by

\* Murray's that discharge they indirectly promote absorption over the whole system\*.

Diuretics are now seldom employed, except in cases of dropsy, and here they not unfrequently fail of success. They are, however, occasionally used in calculous or gravelly complaints, in gonorrhœa, to diminish plethora, or check profuse perspiration.

Therapeutics.

## CLASS V. CATHARTICS.

Cathartics are those medicines which promote or increase the evacuation of excrementitious matter, or of serous fluids, from the bowels.

There are two principal objects which modern physicians have in view in the administration of cathartics; one is, merely to empty the bowels, and bring off the excrementitious matter contained in them, which is already out of the course of circulation; the other, to stimulate the exhalant vessels of the bowels, and thus promote an increased secretion of serous fluids which they pour into the alimentary canal; in this way diminishing the general mass of fluids in the body. Hence these medicines are naturally divided into laxatives and purgatives, the latter of which are often termed drastic purgatives. It is true that these orders of cathartics differ only in degree of power, as such a quantity of a laxative may be given as to induce purging, while the dose of a purgative may be so diminished as to prove only gently laxative. As, however, the division is useful in some respects, we shall here preserve it, and shall distribute our list of cathartics into laxatives and purgatives.

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Definition  
of cathar-  
tics.

## A. LAXATIVES.

## I. ANIMAL PRODUCTS.

Mel, *honey*.Mel depumatum, *clarified honey*.

## II. VEGETABLE PRODUCTS.

Anthemis nobilis, *clysters of chamomile decoction*.Olea europæa, *olive oil*.Supertartaras potassæ, *supertartrate of potash*.Tartaras potassæ, *tartrate of potash*.Tartaras potassæ et sodæ, *tartrate of potash and soda, or Rochelle salt*.

Cassia fistula.

Electuarium cassiæ, *electuary of cassia*.Cassia senna, *senna*.Pulvis fennæ compositus, *compound powder of senna*.Electuarium cassiæ fennæ, *electuary of senna*.Infusum fennæ simplex, *simple infusion of senna*.Infusum fennæ tartarifatum, *tartarified infusion of senna*.Infusum tamarindi cum senna, *infusion of tamarinds with senna*.Tinctura fennæ composita, *compound tincture of senna*.Ficus carica, *figs*.Fraxinus ornus, *manna*.Syrupus mannæ, *syrup of manna*.Prunus domestica, *prune*.Rosa damascena, *damausk rose*.Syrupus rosæ centifoliæ, *syrup of damausk roses*.Saccharum officinarum, *brown sugar*.

Tamarindus

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Table of  
cathartics.



Therapeu-  
tics.

Tamarindus indica, *tamarinds*.  
Viola odorata, *sweet violet*.  
Syrupus violæ odoratæ, *syrup of violets*.

## III. MINERAL PRODUCTS.

Sulphur sublimatum, *flowers of sulphur*.  
Sulphur sublimatum lotum.  
Sapo hispanus, *Castile soap*.

## B. PURGATIVES.

## I. ANIMAL PRODUCTS.

Cervus elaphus, *hartshorn*.  
Phosphas sodæ, *phosphate of soda*.

## II. VEGETABLE PRODUCTS.

Nicotiana tabacum, *clysters of tobacco*, or of tobacco smoke.

Sambucus nigra, *elder*.

Pinus sylvestris, } *clysters of turpentine*.  
larix, }

Aloe perfoliata, *soccotrine aloes*.

Pulvis aloes cum canella, *powder of aloes with canella*.

Pilulæ aloeticæ, *aloetic pills*.

Pilulæ aloes cum colocynthide, *pills of aloes with colocynth*.

Vinum aloes soccotrinæ, *aloes wine*.

Tinctura aloes soccotrinæ, *tincture of soccotrine aloes*.

Bryonia alba, *bryony*.

Convolvulus jalapa, *jalap*.

Pulvis jalapæ compositus, *compound powder of jalap*.

Extractum jalapæ, *extract of jalap*.

Tinctura convolvuli jalapæ, *tincture of jalap*.

Convolvulus scammonia, *scammony*.

Pulvis scammonii compositus, *compound powder of scammony*.

Pulvis scammonii cum aloë, *powder of scammony with aloes*.

Electuarium scammonii, *electuary of scammony*.

Cucumis colocynthis, *colocynth*, or *bitter apple*.

Extractum colocynthidis compositum, *compound extract of colocynth*.

Gratiola officinalis, *bedge hyssop*.

Helleborus niger, *black hellebore*.

Extractum hellebori nigri, *extract of black hellebore*.

Helleborus foetidus, *stinking hellebore*.

Iris pseudacorus, *common flag*.

Linum catharticum, *purging flax*.

Momordica elaterium, *wild cucumber*.

Succus spissatus momordici elaterii, *elaterium*.

Rhamnus catharticus, *buckthorn*.

Syrupus rhamni cathartici, *syrup of buckthorn*.

Rheum palmatum, *rhubarb*.

Infusum rhei palmati, *infusion of rhubarb*.

Vinum rhei palmati, *rhubarb wine*.

Tinctura rhei palmati, *tincture of rhubarb*.

Tinctura rhabarbari composita, *compound tincture of rhubarb*.

Tinctura rhei et aloes, *tincture of rhubarb and aloes*.

Tinctura rhei et gentianæ, *tincture of rhubarb and gentian*.

Ricinus communis, *castor oil*.

Stalagmitis cambogioides, *gamboge*.

## III. MINERAL PRODUCTS.

Sulphuretum antimonii, *sulphuret of antimony*.

Tartris antimonii, in very small doses.

Hydrargyrum, *mercury*.

Submuriæ hydrargyri, *submuriate of mercury*.

Submuriæ hydrargyri præcipitatus, *precipitated submuriate of mercury*.

Pilulæ hydrargyri, *mercurial pills*.

Nitras potassæ.

Sulphas potassæ, *sulphate of potash*.

Muriæ sodæ, *sea salt*.

Sulphas sodæ, *sulphate of soda*, or *Glauber's salt*.

Sulphas magnesiæ, *sulphate of magnesia*, or *Epsom salt*.

The operation of a purgative medicine on the intestinal canal, may be considered as threefold. First, it stimulates the muscular fibres of the intestines, quickens their action, and thus increases the natural peristaltic motion of the bowels, in consequence of which their contents are more quickly discharged. Secondly, the exhalant vessels are stimulated by it, which terminate in the inner coat of the intestines, and it excites them to pour forth a greater discharge of fluids, as well as the mouths of the excretory ducts of the mucous glands, by which the natural mucus of the intestines is greatly augmented; and hence the evacuations by stool are not only quicker, but the excrementitious matter is thinner and more copious. Thirdly, the stools are rendered still more abundant, by an additional portion of the fluids furnished by the neighbouring viscera, the liver, pancreas, &c. to which the stimulus of a purgative, of the more active sort in particular, extends. It is probable that these effects are communicated to the whole range of the intestinal canal, from the upper orifice of the stomach to the lower extremity of the rectum, or anus.

From the view we have now taken of the primary effects of cathartics on the bowels, we may easily understand how far they may prove useful in some diseases, and injurious in others; and how we may vary the degree of their activity under different circumstances.

When we consider the great length of the alimentary canal, with the numerous vessels and mucous follicles, as well as the hepatic and pancreatic ducts, which open on its internal surface, it will be evident that purgatives, even though they be not very stimulant, may occasion a great general evacuation, and consequent diminution of the mass of fluids, by opening at once all those outlets. From this it appears, that next to blood-letting, purging will form one of the most active remedies in acute inflammatory diseases, where we wish to avoid an over distension of the vessels, and restrain the preternatural increase of the powers of the circulating system. Accordingly, purging constitutes a principal part of what is termed the *cooling regimen*. In these cases the more drastic purgatives are to be avoided, as



Therapeu-  
tics.

their use would be attended with so much stimulating effect on the system in general, as to counterbalance the advantage we should derive from their diminishing the mass of fluids. Again, the change in the distribution of the blood from other parts of the system to the bowels, is another circumstance attending the use of purgatives, which renders them of considerable importance in several diseases. It seems to follow, that if an evacuation be made from one set of vessels, the afflux of fluids to these will be increased in order to supply it, and, consequently, the afflux to other parts of the system will be diminished. Upon this principle, Dr Cullen explains the utility of purgatives in disorders of the head, which originate from over-fullness or over-activity, and in mental affections, mania, phrensy, headach, &c. The afflux of fluids in the vessels of the abdomen, which supply the intestines, being increased by purging, the afflux will be proportionally diminished in the vessels which carry blood to the head, and both the quantity and impetus of the blood in the head will thus be lessened.

The good effects of cathartics in the small pox, and some other inflammatory affections of the skin, are probably to be attributed chiefly to their removing local irritation, and producing a considerable depletion, and thus diminishing the general fever that usually attends those diseases.

When the contents of the bowels are morbidly retained, either in consequence of their peristaltic motion being unusually slow from a torpid state of the muscular fibres, or from a relaxed state of the bowels, favouring an accumulation of feces, from a deficiency of bile, or from habitual neglect, the use of cathartics is indicated, to prevent more serious complaints that may be the consequence of this costiveness. The kind of cathartics to be employed depends on the nature of the cause producing the constipation, or particular circumstances attending it. If, for example, the costiveness be attended with a debilitated habit, with symptoms of great nervous mobility, flatulence, or other signs of a debilitated state of the alimentary canal, some of the warmer aromatic cathartics will be proper, as aloes, rhubarb, or such preparations of these as contain an aromatic in their composition. If the costiveness seems to arise from a deficiency of bile, the aloetic and mercurial purgatives are indicated.

In cases where the costiveness has arisen from some accidental cause, as in colic, dysentery, enteritis, it will be necessary to vary the cathartics according to the nature of the affection, or the cause by which it has been produced. See COLIC, DYSENTERY, and ENTERITIS, *MEDICINE Index*.

Cathartics exert a particular action on the absorbent vessels, by which these are enabled to take up a greater quantity of fluid than in their natural state. Hence the use of drastic purgatives in dropsy. The action of cathartics in this way does not appear to be well understood. Dr Cullen, treating of this subject, observes that, as in every cavity of the body there is an inhalation and exhalation constantly going on, it is presumed that there is some balance constantly preserved between the secretory and absorbent powers; so that if the former are increased, the latter will be also; and, therefore, that when the secretions are, upon occasion, much

increased, the action of the absorbents may be particularly excited. This explains why purging often excites the action of the absorbents, to take up more copiously the fluids that were otherwise stagnant in the adipose membrane, or other cavities of the body, and thereby often proves a cure of dropsy. This explanation is perhaps little more than an implicit statement of the fact. It is certain, however, that *ascites*, or dropsy of the abdomen, has been often affected by means of acrid drastic purgatives, such as gamboge, scammony, &c. when diuretic remedies have failed. But it is obvious that these remedies can only be administered to those who retain considerable strength of constitution, debilitated neither by inveterate intemperance, old age, nor a long disease.

The attention of practitioners has been lately particularly directed to the use of purgatives in several diseases, in which they were formerly either not employed at all, or not used to any extent, in consequence of a valuable publication by Dr James Hamilton, senior physician of the Edinburgh infirmary. Dr Hamilton having observed that in several spasmodic diseases, especially in choria, or St Vitus's dance, there was commonly a considerable collection of black offensive feces in the bowels, was led to conceive that this must prove a very powerful irritating cause in protracting these diseases; and as in common with other practitioners, he had experienced great want of success from the usual administration of tonic medicines in these affections, he was led to try the effect of purgatives given to such an extent as to produce complete evacuation of the bowels. The plan succeeded entirely to his satisfaction, and by this treatment he finds choria is speedily cured, generally in 10 days or a fortnight. Besides choria, Dr Hamilton has been very successful in the administration of purgatives in cases of typhus, scarlatina, fever, marasmus, chlorosis, hæmorrhæmus, hysteria, tetanus, and several other chronic affections. He was originally induced to pursue his new method of treating typhus, by observing that the antimonials, which were formerly so largely employed in this disease, appeared to be most serviceable when they operated upon the bowels. This led him to suspect, that any purgative medicine might be substituted in their place, and that the debilitating effect of vomiting and sweating might thus be avoided. Experience has fully confirmed these conjectures, and after a trial of some years he is thoroughly persuaded, that the full and regular evacuation of the bowels relieves the oppression of the stomach, and mitigates the other symptoms of fever. He has accordingly almost entirely given up the administration of other remedies, and trusts to the exhibition of frequent and copious purgatives. It might have been apprehended, that this plan of treatment would have aggravated the debility, which constitutes a striking symptom of typhus; but ample experience has proved that this is not the case. The purgatives which Dr Hamilton\* has employed in

\* See Hamilton on Purgative Medicines.

Cathartics are among the most efficacious remedies that are employed with a view to promote or restore the menstrual evacuation; and accordingly they form the chief part of those remedies that are commonly called

Therapeu-  
tics



Therapeu- ed emmenagogues. With this view the drastic purga-  
tics. tives are chiefly given, as aloes, bryony, black hellebore,  
and some of the preparations of mercury.

There is another use of cathartics that may be referred to a mechanical operation, viz. their expelling worms from the bowels. See ANTHELMINTICS.

## CLASS VI. ERRHINES.

<sup>158</sup> Definition of errhines. Those medicines are termed errhines that are employed to promote an increased discharge of mucus from the nostrils. The principal errhines are the following.

## I. VEGETABLE PRODUCTS.

Afarum europæum, *asarabacca*.

Pulvis asari europæi compositus, *compound powder of asarabacca*.

*Cephalic snuff.*

Nicotiana tabacum, *tobacco*.

*The ordinary snuffs.*

Iris florentina, *Florentine orris*.

Lavandula spica, *lavender flowers*.

Origanum majorana, *sweet marjoram*.

Rosmarinus officinalis, *rosemary*.

Teucrium marum, *maſtich*.

Veratrum album, *white bellebore*.

## II. MINERAL PRODUCTS.

Hydrargyrum, *mercury*.

Subfulphas hydrargyri flavus, *yellow subſulphate of mercury, or turbeth mineral*.

<sup>160</sup> Effects and uses of errhines. The evacuation produced by the action of errhines is sometimes procured without any sneezing, but frequently attended with it. This, however, implies no difference, but merely that of stronger or weaker stimulus in the medicine employed. The sneezing that occurs may have particular effects by the concussion it occasions; but is does not vary the evacuation induced by the medicine, excepting that with sneezing there is commonly a larger evacuation produced.

This evacuation often goes no further than to restore the natural evacuation when interrupted; but it commonly goes farther, and increases the evacuation beyond its usual measure; and that not only for some time after the medicine has been applied, but also for some following days.

This evacuation not only empties, but also produces a larger excretion from the mucous follicles of the schneiderian membrane; but, agreeably to the laws of the circulation, this must produce an afflux of fluids from the neighbouring vessels, and in some measure empty these. By this it often removes rheumatic congestions in the neighbouring vessels, and particularly those in which the toothach often consists.

But not only the more nearly adjoining vessels are thus relieved, but the effect may extend further to the whole of the branches of the external carotid; and we have known instances of headachs, pains of the ear, and ophthalmias, cured or relieved by the use of errhines. How far their effects may extend, cannot be exactly determined; but it is probable that they may operate more or less on the whole vessels of the head, as even a branch of the internal carotid passes into the nose; and independent of this, it is not improbable

that our errhines may have been of use in preventing apoplexy and palsy; which at least is to be attended to so far, that whenever any approach to these diseases is suspected, the drying up of the mucous discharge should be attended to, and if possible restored. \*

## CLASS VII. SIALAGOGUES.

These are employed either to promote an increased flow of saliva, or to produce such an action on the gums, as shall indicate their having been received in sufficient quantity into the circulation. Under the former division are ranked several vegetable substances; under the latter are included only mercury and its preparations.

## I. VEGETABLE PRODUCTS.

Daphne mezereum, *mezereum*.

Amomum zingiber, *ginger*.

Anthemis pyrethrum, *pellitory of Spain*.

Pistacia lentiscus, *maſtich*.

## II. MINERAL PRODUCTS.

Hydrargyrum, *mercury*.

Hydrargyrum purificatum, *purified mercury*.

Submurias hydrargyri, *ſubmuriate of mercury*.

Murias hydrargyri, *muriate of mercury*.

Submurias hydrargyri præcipitatus, *precipitated ſubmuriate*.

Pilulæ hydrargyræ, *mercurial pills*.

Oxidum hydrargyri cinereum, *cinereous oxide of mercury*.

Unguentum hydrargyrum, *mercurial ointment*.

Hydrargyrus calcinatus, *red oxide of mercury*.

Acetis hydrargyri, *acetate of mercury*.

Hydrargyrus ſulphuratus ruber, *red ſulphurate of mercury*.

Sulphuretum hydrargyri nigrum, *black ſulphuret of mercury*.

The vegetable sialagogues are commonly called maſticatories, because they produce their effect by being chewed in the mouth. They are employed in similar cases with the errhines, more especially in toothach. The use of the mercurial sialagogues will be explained hereafter in our account of mercury.

## CLASS VIII. EMOLLIENTS.

The medicines commonly called emollients consist either of diluting liquors, formed of simple water, or certain vegetable infusions, or mucilaginous and oily matters that have the mechanical property of defending the parts to which they are applied, from the action of acrimonious substances that pass over them; or of softening and relaxing the skin and other external parts. The first of these are commonly called *dilutents*, the second *demulcents*, and the third simply *emollients*. We shall enumerate them together under the general term of emollients, reserving an account of their particular uses for the individual articles.

## I. ANIMAL PRODUCTS.

Accipenser huso, sturio, &c, *iſinglaſs*.

Ovis aries, *mutton ſuet*.

Phyſeter macrocephalus, *ſpermaceti*.

Sus ſcrofa, *hogs-lard*.

Linimentum

Therapeu-  
tics.  
\* Cullen's  
Materia  
Medica,  
vol. ii.  
P. 35.

<sup>161</sup> Definition  
of ſiala-  
gogues.

<sup>162</sup> Table of  
ſialagogues.

<sup>163</sup> Uses of ſiala-  
gogues.

<sup>164</sup> Definition  
of emol-  
lients.

<sup>165</sup> Table of  
emollients.



Linimentum simplex, *simple liniment*.  
Unguentum simplex, *simple ointment*.  
Unguentum adipis suillæ, *ointment of hogs-lard*.  
Unguentum spermatis ceti, *spermaceti ointment*.  
Unguentum ceræ, *wax ointment*.  
Ceratum simplex, *simple cerate*.  
Ceratum spermatis ceti, *spermaceti cerate*.

## II. VEGETABLE PRODUCTS.

Cera alba et flava, *white and yellow wax*.  
Olea Europæa.  
Althea officinalis, *marshmallow*.  
Decoctum altheæ officinalis, *decoction of marsh-  
mallow*.  
Syrupus altheæ, *syrup of marshmallow*.  
Amygdalus communis, *almonds and oil of almonds*.  
Emulsio amygdali communis, *almond emulsion*.  
Oleum amygdali communis, *oil of almonds*.  
Astragalus tragacantha, *gum tragacanth*.  
Mucilago astragali tragacanthi, *mucilage of tra-  
gacanth*.  
Pulvis tragacanthi compositus, *compound powder  
of tragacanth*.  
Avena fativa, *oat meal*.  
Cocos butyracea, *palm oil*.  
Eryngium maritimum, *eryngo root*.  
Glycyrrhiza glabra, *liquorice root, and extract*.  
Trochisci glycyrrhizæ, *liquorice lozenges*.  
Hordeum distichon, *barley*.  
Decoctum hordei distichi, *barley water*.  
Decoctum hordei compositum, *compound decoction  
of barley*.  
Lilium candidum, *white lily root*.  
Linum usitatissimum, *linseed*.  
Oleum lini usitatissimi, *linseed oil*.  
Malva sylvestris, *common mallow*.  
Decoctum pro enemate, *decoction for clusters*.  
Melissa officinalis, *balm*.  
Mimosa nilotica, *gum arabic*.  
Mucilago mimosæ niloticæ, *mucilage of gum arabic*.  
Emulsio mimosæ niloticæ, *common emulsion*.  
Trochisci gummosi, *gum lozenges*.  
Penæa sarcocolla, *sarcocolla*.  
Pyrus cydonia, *quince seed*.  
Mucilago seminis cydonii mali, *mucilage of quince  
seed*.  
Triticum hibernum, *wheat and starch*.  
Mucilago amyli, *mucilage of starch*.  
Trochisci amyli, *starch lozenges*.  
Vitis vinifera, *raisins*.

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Uses of  
emollients.

Diluent are chiefly employed to abate thirst in fe-  
ver and inflammatory affections, or to promote the ac-  
tion of other remedies, particularly diaphoretics and  
diuretics. Demulcents are chiefly used in catarrh,  
pneumonia, dysentery, diarrhœa, gonorrhœa; and external  
emollients are employed chiefly in case of sprains and  
bruises, or to defend the surface of ulcers from the dress-  
ings and bandages.

## CLASS IX. REFRIGERANTS.

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Definition  
of refrige-  
rants.

Under this term are comprehended those remedies  
which are employed with a view to diminish the pre-  
ternaturally increased heat that takes place in the body  
during fevers and several inflammatory affections.

The following are the principal refrigerants enume-  
rated by the various writers on the materia medica.

## I. VEGETABLE PRODUCTS.

Acidum acetosum, *acetous acid*.  
Acetis potassæ, *acetate of potash*.  
Aqua acetitis ammoniæ, *water of acetate of am-  
monia*.  
Supertartras potassæ, *supertartrate of potash*.  
Tamarindus indica, *tamarinds*.  
Berberis vulgaris, *barberry*.  
Citrus medica, *lemon*.  
Syrupus citri medicæ, *syrup of lemon juice*.  
Citrus aurantia, *orange*.  
Cochlearia officinalis, *scoury grass*.  
Succus cochleariæ compositus, *compound juice of  
scoury grass*.  
Morus nigra, *mulberry*.  
Syrupus fructus mori, *syrup of mulberry juice*.  
Oxalis acetosella, *wood sorrel*.  
Conserva acetosellæ, *conservé of sorrel*.  
Ribes nigrum, *black currants*.  
Succus spissatus ribis nigri, *inspissated juice of black  
currants*.  
Syrupus succi ribis nigri, *syrup of black currant  
juice*.  
Ribes rubrum, *red currants*.  
Rosa canina, *dog rose or hips*.  
Conserva rosæ caninæ, *conservé of hips*.  
Rubus idæus, *raspberry*.  
Syrupus fructus rubi idæi, *syrup of raspberry juice*.  
Rumex acetosa, *common sorrel*.  
Veronica beccabunga, *brocklime*.

## II. MINERAL PRODUCTS.

Sulphas zinci, *sulphate of zinc*.  
Nitras potassæ, *nitrate of potash*.  
Acidum nitrosum, *nitrous acid*.  
Spiritus ætheris nitrosi, *spirit of nitrous ether*.  
Trochisci nitratis potassæ, *nitre lozenges*.  
Murias sodæ, *muriate of soda*.  
Acidum muriaticum, *muriatic acid*.  
Acidum sulphuricum, *sulphuric acid*.  
Acidum sulphuricum dilutum, *diluted sulphuric  
acid*.  
Plumbum, *lead*.  
Superacetat plumbi, *superacetate or sugar of lead*.  
Aqua lithargyri acetati, *water of acetated litharge,  
or Goulard's extract*.  
Aqua lithargyri acetati composita, *compound wa-  
ter of acetated litharge*.  
Unguentum acetitis plumbi, *ointment of acetate  
of lead*.  
Ceratum lithargyri acetati compositum, *compound  
ferate of acetated litharge*.  
Affusio of cold water.

Refrigerants appear to act chemically, but in what Effects and  
precise manner they diminish the heat of the human bo- uses of re-  
dy, is not well understood. On this subject Mr Mur- frigerants.

“ Keeping in view the very inconsiderable action of  
these remedies, it may perhaps be possible, from the  
consideration of the mode in which animal temperature



Therapeutics. is generated, to point out how their trivial refrigerant effects may be produced.

"It has been sufficiently established, that the consumption of oxygen in the lungs is materially influenced by the nature of the ingesta received into the stomach; that it is increased by animal food and spirituous liquors, and in general by whatever substances contain a small quantity of oxygen in their composition. But the temperature of animals is derived from the consumption of oxygen by respiration. An increase of that must occasion a great evolution of caloric in the system, and increase of temperature, while a diminution in the consumption of oxygen must have an opposite effect. If, therefore, when the temperature of the body is morbidly increased, substances be introduced into the stomach containing a large proportion of oxygen, especially in a state of loose combination, and capable of being assimilated by the digestive powers, the nutritious matter received into the blood must contain a larger portion of oxygen than usual; less of that principle will be consumed in the lungs, by which means less caloric being evolved, the temperature of the body must be reduced; and this operating as a reduction of stimulus, will diminish the number and force of the contractions of the heart.

"It might be supposed that any effect of this kind must be trivial, and it actually is so. It is, as Cullen has remarked, not very evident to our senses, nor easily subjected to experiment, and is found only in consequence of frequent repetitions \*."

\* Murray's Elements. Refrigerants are considered by Mr Murray as acting chemically, but we are not certain how far this opinion is correct. That some of them do operate in cooling the human body, merely as chemical agents, cannot be denied; but several seem to produce this effect by some particular action on the nervous system, that is not well understood.

#### CLASS X. ASTRINGENTS.

Astringents are defined by Dr Cullen to be such substances as when applied to the human body produce a condensation and contraction of the soft solids, and thereby increase their density and force of cohesion. If they are applied to longitudinal fibres, the contraction is made in the length of these; but if applied to circular fibres, the diameters of the vessels, or the cavities which these surround, are diminished.

The principal substances that act in this way are taken from vegetables, and consist of the barks of several trees, certain roots and inspissated juices; but a few of them are derived from minerals, especially the stronger mineral acids, a few metallic and earthy salts, and according to some writers, alcohol. We shall enumerate the following.

##### I. VEGETABLE PRODUCTS.

Hæmatoxylum campechianum, *logwood*.

Extractum ligni hæmatoxyli campechiani, *extract of logwood*.

Juglans regia, *walnut*.

Eucalyptus resinifera, *kino*.

Tinctura kine, *tincture of kino*.

Mimosa catechu, *catechu*, or *Japan earth*.

Infusum mimosæ catechu, *infusion of catechu*.

Tinctura mimosæ catechu, *tincture of catechu*.

Electuarium catechu, *electuary of catechu*.

Polygonum bistorta, *bistort*.

Potentilla reptans, *potentilla*.

Prunus spinosa, *sloe*.

Conserva pruni sylvestris, *conserve of sloes*.

Pterocarpus draco, *dragon's blood*.

Punica granatum, *homogranate, balastines*.

Quercus cerris, *gal nut*.

Quercus robur, *common oak*.

Rosa gallica, *red rose*.

Infusum rosæ gallicæ, *infusion of roses*.

Conserva rosæ gallicæ, *conserve of red roses*.

Syrupus rosæ gallicæ, *syrup of red roses*.

Mel rosæ, *honey of roses*.

Tormentilla erecta, *tormentil root*.

Vitis vinifera, *red Port wine*.

##### II. MINERAL PRODUCTS.

Acidum sulphuricum, *sulphuric acid*.

Acidum muriaticum, *muriatic acid*.

Ferrum, *iron*.

Tinctura muriatis ferri, *tincture of muriated iron*.

Plumbum, *lead*.

Superacetates plumbi, *superacetate of lead*.

Sulphas cupri, *sulphate of copper*.

Solutio sulphatis cupri, *solution of sulphate of copper*.

Liquor cupri ammoniati, *liquor of ammoniated copper*.

Sulphas zinci, *sulphate of zinc*.

Aqua zinci vitriolati cum camphora, *water of vitriolated zinc with camphor*.

Solutio acetatis zinci, *solution of acetate of zinc*.

Super sulphas aluminæ et potassæ, *super sulphate of alumina and potash, or alum*.

Sulphas aluminæ exsiccatum, *dried sulphate of alumina*.

Pulvis sulphatis aluminæ compositus, *compound powder of sulphate of alumina*.

Aqua aluminis composita, *compound alum water*.

Cataplasmata aluminis, *cataplasm of alum*.

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Definition  
of astringents.

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Table of  
astringents.

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Nature of  
astringents.

be.



Therapeu-  
tics.

be aware that the above property is not a sure test of vegetable astringency. A more certain chemical test is animal jelly; for, when a solution of this is added to a solution of vegetable astringent, a copious precipitate is produced, which in fact is leather.

Astringents appear to act nearly in a similar manner on the dead animal fibre as on the living solid, in both cases thickening and hardening: when applied to the living solid, they produce increase of tone and strength, restrain inordinate actions, and check excessive discharges from any of the vessels or cavities; and to the dead fibre occasion density, toughness, imperviousness to water in a greater or less degree, and insusceptibility to the common causes of putrefaction. See TANNING.

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Effects and  
uses.

Astringents are largely employed in medicine, and their use is attended with considerable advantage. The cases in which they are most beneficial, and in which their effect seems most unequivocally owing to the astringent principle, are diarrhoeas, leucorrhœa, and gleet. They have also been employed with success for restraining profuse evacuations where they could not be immediately applied to the affected part, as in the above cases; for example, in hemoptisis and epistaxis; but here their operation seems to be less attributable to their astringency than to their tonic power.

Such astringents as are employed externally to check hemorrhage from divided vessels, are usually called styptics.

## CLASS IX. TONICS.

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Definition  
of tonics.

Tonics are those medicines which are suited to counteract debility, or to give strength and energy to the moving fibres. They are taken partly from vegetables, and partly from minerals.

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Table of  
tonics.

## I. VEGETABLE PRODUCTS.

*Anthemis nobilis*, chamomile flowers.

*Centaurea benedicta*, holy thistle.

*Marrubium vulgare*, borehound.

*Myrrha*, myrrh.

*Pulvis myrrhæ compositus*, compound powder of myrrh.

*Dorstenia contrajerva*, contrayerva.

*Pulvis contrayervæ compositus*, compound powder of contrayerva.

*Vitis vinifera*.

*Vinum rubrum lusitanum*, red port wine.

*Æsculus hippocastanum*, horse-chestnut bark.

*Angustura*, angustura bark.

*Chironia centaureum*, lesser centaury.

*Cinchona officinalis*, Peruvian bark.

*Infusum cinchonæ officinalis*, infusion of cinchona.

*Decoctum cinchonæ officinalis*, decoction of cinchona.

*Tinctura cinchonæ officinalis*, tincture of cinchona.

*Tinctura cinchonæ composita*, compound tincture of cinchona.

*Tinctura cinchonæ ammoniata*, ammoniated tincture of cinchona.

*Extractum cinchonæ officinalis*, extract of cinchona.

*Cinchona caribæa*, Caribbean cinchona.

*Colomba*, colomba root.

*Tinctura colombæ*, tincture of colomba.

*Croton eleutheria*, cascarilla bark.

*Tinctura cascarillæ*, tincture of cascarilla.

*Extractum cascarillæ*, extract of cascarilla.

*Gentiana lutea*, gentian root.

*Infusum gentianæ compositum*, compound infusion of gentian.

*Tinctura gentianæ composita*, compound tincture of gentian.

*Vinum gentianæ compositum*, compound wine of gentian.

*Extractum gentianæ*, extract of gentian.

*Menyanthes trifoliata*, marsh trefoil.

*Quassia excelsa*, quassia.

*Quassia fimaruba*, fimarouba.

*Salix fragilis*, fragile willow bark.

*Salix alba*, white willow bark.

*Swietenia mahagoni*, mahogany tree bark.

*Swietenia febrifuga*, febrifuge swietenia.

*Tanacetum vulgare*, common tansy.

## II. MINERAL PRODUCTS.

*Sulphas cupri*, sulphate of copper.

*Ammoniaretum cupri*, ammoniaret of copper.

*Pilulæ ammoniaretu cupri*, pills of ammoniaret of copper.

*Zincum*, zinc.

*Sulphas zinci*, sulphate of zinc.

*Solutio sulphatis zinci*, solution of sulphate of zinc.

*Oxidum zinci*, oxide or flowers of zinc.

*Nitras potassæ*, nitrate of potash.

*Acidum nitrosum*, nitrous acid.

*Ferrium*, iron.

*Carbonas ferri*, carbonate of iron.

*Carbonas ferri præcipitatus*, precipitated carbonate of iron.

*Aqua ferri aëratu*, water of aerated iron.

*Sulphas ferri*, sulphate of iron.

*Vinum ferri*, wine of iron.

*Tinctura muriatis ferri*, tincture of muriate of iron.

*Sulphas ferri exsiccatus*, dried sulphate of iron.

*Oxidum ferri rubrum*, red oxide of iron.

*Emplastrum oxidi ferri rubri*, plaster of red oxide of iron.

*Ferri limaturæ purificatæ*, purified filings of iron.

*Oxidum ferri nigrum purificatum*, purified black oxide of iron.

*Murias ammoniæ et ferri*, muriate of ammonia and iron.

*Tinctura ferri ammoniacalis*, tincture of ammoniacal iron.

*Tartras ferri et potassæ*, tartrate of iron and potash.

*Tinctura ferri acetati*, tincture of acetated iron.

*Acidum sulphuricum*, sulphuric acid.

*Acidum sulphuricum dilutum*, diluted sulphuric acid.

Acidum



Therapeutics. *Acidum fulphuricum aromaticum, aromatic sulphuric acid.*

Argentum, *silver.*

Nitras argenti, *nitrate of silver, or lunar caustic.*

Arfenicum, *arsenic.*

Carbonas barytæ, *carbonate of baryta.*

Carbonas calcis, *carbonate of lime or chalk.*

Solutio muriatis calcis, *solution of muriate of lime.*

Sulphas barytæ, *sulphate of baryta.*

Murias barytæ, *muriate of baryta.*

Solutio muriatis barytæ, *solution of muriate of baryta.*

Aquæ minerales ferrum continentés, *chalybeate mineral waters.*

### III. GASEOUS PRODUCTS.

Gas oxigenium, *oxygen gas.*

Balneum frigidum, *cold bath.*

Equitatio, *riding on horseback.*

Most tonics act immediately on the stomach, and hence on the system at large. They increase the appetite, quicken digestion, and add vigour to the body. Hence they are useful in most cases of debility; but when used improperly or for too long a time, they predispose to apoplectic and paralytic disorders.

### CLASS XII. STIMULANTS.

Most of the articles of the Materia Medica might, in an extended sense, be called *stimulants*; but this term is, by the general consent of physicians, restrictively applied to those medicines which possess the power of sustaining or increasing the vital energies—of raising and invigorating the action of the heart and arteries—and of restoring to the muscular fibre, when affected with torpor, its lost sensibility and power of motion. Hence the use, under proper regulations, of the various articles belonging to this class in cases of gout, palsy, and malignant typhoid fever: but let it be repeated, under proper regulations; for we cannot but remark that medicines which give additional activity to the circulation, and which augment the heat and sensibility of the system throughout, are often abusively employed, being administered too early, as well as too freely in the above-mentioned and some other similar disorders. In the beginning of typhous fever, in particular, it cannot be doubted that a hasty and lavish exhibition of such medicines has, in numerous instances, aggravated every symptom, and brought the patient, who would otherwise have had the disease in its mildest form, into considerable danger\*.

The class of stimulants is exceedingly numerous, and might, perhaps, with advantage, be subdivided into sections; but as this subdivision would admit of much dispute from the different acceptation of the term *stimulant*, we shall here only give a table of stimulants distributed as usual into animal, vegetable, and mineral products.

#### I. ANIMAL PRODUCTS.

Murias ammoniæ, *muriate of ammonia.*

Aqua ammoniæ, *water of ammonia.*

Alcohol ammoniatum, *ammoniated alcohol.*

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Carbonas ammoniæ, *carbonate of ammonia.*

Aqua carbonatis ammoniæ, *water of carbonate of ammonia.*

Oleum ammoniatum, *ammoniated oil.*

Linimentum ammoniæ, *liniment of ammonia.*

Linimentum volatile, *volatile liniment.*

Alcohol ammoniatum aromaticum, *aromatic ammoniated alcohol.*

Spiritus ammoniæ fuccinatus, *succinated spirit of ammonia.*

Moschus moschiferus, *musk.*

Mistura moschata, *musk mixture.*

Cervus elaphus, *hartshorn.*

Liquor volatilis cornu cervi, *volatile liquor of hartshorn.*

Sal cornu cervi, *salt of hartshorn.*

Lytta vesicatoria, *cantharides.*

Tinctura meloes vesicatorii, *tincture of cantharides.*

Unguentum infusi meloes vesicatorii, *ointment of infusion of cantharides.*

Unguentum pulveris meloes vesicatorii, *ointment of powder of cantharides.*

Ceratum cantharidis, *cerate of cantharides.*

Emplastrum meloes vesicatorii, *plaster of cantharides.*

#### II. VEGETABLE PRODUCTS.

Sinapis alba, *mustard seed.*

Cataplasma sinapios, *mustard cataplasm.*

Allium fativum, *garlic.*

Arum maculatum, *wake-robin.*

Conserva ari, *conserve of arum.*

Pimpinella anisum, *anise seed.*

Oleum volatile pimpinellæ anisi, *volatile oil of anise seed.*

Styrax benzoin, *benjamin.*

Acidum benzoicum, *benzoic acid.*

Tinctura beuzoes composita, *compound tincture of benjamin.*

Alcohol.

Æther fulphuricus, *sulphuric æther.*

Æther fulphuricus cum alcohole, *sulphuric æther with alcohol.*

Æther fulphuricus cum alcohole compositus, *compound sulphuric æther with alcohol.*

Oleum vini, *oil of wine.*

Acidum acetosum, *vinegar.*

Acidum acetosum fortè, *strong acetous acid.*

Acidum acetosum camphoratum, *camphorated acetous acid.*

Acetum aromaticum, *aromatic vinegar.*

Aristolochia serpentaria, *snake-root.*

Tinctura aristolochiæ serpentariæ, *tincture of snake-root.*

Daphne mezereum, *mezereum.*

Decoctum daphnes mezerei, *decoction of mezereum.*

Guaiacum officinale, *guaiacum.*

Decoctum guaiaci officinalis, *decoction of guaiacum.*

Tinctura guaiaci officinalis, *tincture of guaiacum.*

Tinctura guaiaci ammoniæ, *ammoniated tincture of guaiacum.*

Papaver somniferum, *opium in small doses.*

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Effects and  
uses of to-  
nics.

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Definition  
and effects  
of stimu-  
lants.

\* Synopsis  
of Materia  
Medica,  
vol. ii.  
p. 154.

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stimulants.



Therapeu-  
tics.

Tinctura opii, *tincture of opium*.  
 Tinctura opii camphorata, *camphorated tincture of opium*.  
 Tinctura opii ammoniata, *ammoniated tincture of opium*.  
 Confectio opiata, *opiate confectio*.  
 Cochlearia armoracia, *horse radish*.  
 Copaifera officinalis, *balsam of copaiba*.  
 Pinus sylvestris, } *turpentine and rosin*.  
 Pinus larix, }  
 Oleum volatile pini purissimum, *purified oil of turpentine*.  
 Unguentum resinæ flavi, *ointment of yellow rosin*.  
 Ceratum resinæ flavi, *cerate of yellow rosin*.  
 Emplastrum ceræ, *wax plaster*.  
 Unguentum picis, *pitch plaster*.  
 Unguentum picis burgundicæ, *ointment of burgundy pitch*.  
 Arnica montana, *leopard's bane*.  
 Bubon galbanum, *galbanum*.  
 Pilulæ galbani compositæ, *compound pills of galbanum*.  
 Emplastrum galbani compositum, *compound plaster of galbanum*.  
 Juniperus sabina, *savine*.  
 Oleum juniperi sabinæ, *oil of savine*.  
 Juniperus Lycia, *olibanum*.  
 Pastinaca opoponax, *opoponax*.  
 Veratrum album, *white hellebore*.  
 Unguentum hellebori albi, *ointment of white hellebore*.  
 Decoctum hellebori albi, *decoction of white hellebore*.  
 Acorus calamus, *calamus aromaticus, or sweet flag*.  
 Amomum zingiber, *ginger*.  
 Syrupus amomi zingiberis, *syrup of ginger*.  
 Tinctura amomi zingiberis, *tincture of ginger*.  
 Amomum repens, *lesser cardamom seeds*.  
 Tinctura amomi repentis, *tincture of cardamom*.  
 Tinctura cardamomi composita, *compound tincture of cardamom*.  
 Amyris gileadenfis, *balm of gilead*.  
 Amyris elemifera, *gum elemi*.  
 Unguentum elemi, *elemi ointment*.  
 Anethum fœniculum, *sweet fennel seed*.  
 Oleum volatile fœniculi dulcis, *oil of fennel*.  
 Aqua fœniculi dulcis, *fennel water*.  
 Anethum graveolens, *dill seed*.  
 Aqua anethi, *dill water*.  
 Angelica archangelica, *angelica*.  
 Apium petroselinum, *parsley root and seed*.  
 Arbutus uva ursi, *whorile berry*.  
 Artemisia maritima, *sea wormwood*.  
 Conserva absinthii maritimi, *conservæ of sea wormwood*.  
 Decoctum pro fomento, *decoction for fomentation*.  
 Canelia alba, *white canella*.  
 Capsicum annum, *capsicum, Cayenne pepper*.  
 Carum carvi, *caraway seeds*.  
 Oleum carvi, *oil of caraway*.

Spiritus cari carvi, *spirit of carraway*.  
 Cistus creticus, *ladanum*.  
 Emplastrum ladani, *ladanum plaster*.  
 Citrus aurantium, *Seville orange peel*.  
 Oleum volatile citri aurantii, *essence of orange-peel*.  
 Aqua citri aurantii, *orange peel water*.  
 Tinctura aurantii corticis, *tincture of orange-peel*.  
 Syrupus citri aurantii, *syrup of orange-peel*.  
 Conserva citri aurantii, *conservæ of orange-peel*.  
 Coriandrum sativum, *coriander seed*.  
 Crocus sativus, *saffron*.  
 Syrupus croci, *syrup of saffron*.  
 Tinctura croci, *tincture of saffron*.  
 Cuminum cyminum, *cumin seed*.  
 Cataplasma cumini, *cumin cataplasm*.  
 Emplastrum cumini, *cumin plaster*.  
 Curcuma longa, *turmeric*.  
 Daucus carota, *wild carrot seed, carrot root*.  
 Dianthus caryophyllus, *clove Julyflower*.  
 Syrupus caryophylli rubri, *syrup of cloves*.  
 Eugenia caryophyllata, *cloves*.  
 Oleum volatile caryophylli aromatici, *oil of cloves*.  
 Hypericum perforatum, *St John's wort*.  
 Inula helenium, *elecampane root*.  
 Kœmpferia rotunda, *zedoary*.  
 Lavandula spica, *lavender flowers*.  
 Oleum volatile lavandulæ spicæ, *oil of lavender*.  
 Spiritus lavandulæ spicæ, *spirit of lavender*.  
 Spiritus lavandulæ compositus, *compound spirit of lavender*.  
 Laurus cinnamomum, *cinnamon*.  
 Oleum volatile lauri cinnamomi, *oil of cinnamon*.  
 Aqua lauri cinnamomi, *cinnamon water*.  
 Spiritus lauri cinnamomi, *spirit of cinnamon*.  
 Tinctura lauri cinnamomi, *tincture of cinnamon*.  
 Tinctura cinnamomi composita, *compound tincture of cinnamon*.  
 Pulvis aromaticus, *aromatic powder*.  
 Electuarium aromaticum, *aromatic electuary*.  
 Laurus cassia, *cassia bark*.  
 Aqua lauri cassiæ, *cassia water*.  
 Laurus nobilis, *bay tree*.  
 Lobelia syphilitica, *blue cardinal flower*.  
 Melaleuca leucadendron, *cajuput oil*.  
 Mentha viridis, *spearmint*.  
 Oleum menthæ sativæ, *oil of mint*.  
 Aqua menthæ sativæ, *mint water*.  
 Spiritus menthæ sativæ, *spirit of mint*.  
 Mentha piperita, *peppermint*.  
 Oleum volatile menthæ piperitæ, *oil of peppermint*.  
 Aqua menthæ piperitæ, *peppermint water*.  
 Spiritus menthæ piperitæ, *spirit of peppermint*.  
 Mentha pulegium, *pennyroyal*.  
 Oleum volatile menthæ pulegii, *oil of pennyroyal*.  
 Aqua menthæ pulegii, *pennyroyal water*.  
 Spiritus menthæ pulegii, *spirit of pennyroyal*.

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tics.

Myrrifica



Myristica moschata, *nutmeg*.  
 Spiritus myristicæ moschatae, *spirit of nutmeg*.  
 Myroxylon Peruiferum, *balsam of Peru*.  
 Tinctura balsami Peruviani, *tincture of balsam of Peru*.  
 Myrtus pimenta, *pimento*, or *Jamaica pepper*.  
 Oleum volatile myrti pimentæ, *oil of pimento*.  
 Aqua myrti pimentæ, *pimento water*.  
 Spiritus myrti pimentæ, *spirit of pimento*.  
 Origanum vulgare, *origanum*.  
 Oleum origani, *oil of origanum*.  
 Panax quinquefolium, *ginseng*.  
 Parietaria officinalis, *pellitory of the wall*.  
 Pinus balsamea, *balsam of Canada*.  
 Piper nigrum, *black pepper*.  
 Piper cubeba, *cubebæ*.  
 Piper longum, *long pepper*.  
 Pistacia terebinthus, *Chio turpentine*.  
 Rhus toxicodendron, *poison oak*.  
 Styrax officinale, *storax*.  
 Styrax purificata, *strained storax*.  
 Toluifera balsamum, *balsam of Tolu*.  
 Tinctura toluiferæ balsami, *tincture of balsam of Tolu*.  
 Syrupus toluiferæ balsami, *syrup of balsam of Tolu*.  
 Trigonella foenum græcum, *fœnugreek seed*.  
 Urtica dioica, *stinging nettle*.  
 Wintera aromatica, *winter's bark*.

## III. MINERAL PRODUCTS.

Hydrargyrum, *mercury*.  
 Unguentum oxidi hydrargyri rubri, *ointment of red oxide of mercury*.  
 Unguentum nitratis hydrargyri, *ointment of nitrate of mercury*.  
 Unguentum nitratis hydrargyri mitius, *milder ointment of nitrate of mercury*.  
 Nitræs potassæ, *nitrate of potash*.  
 Acidum nitrosum, *nitrous acid*.  
 Acidum nitricum, *nitric acid*.  
 Unguentum acidi nitrosi, *ointment of nitrous acid*.  
 Sapo Hispanus, *Castile soap*.  
 Tinctura saponis, *tincture of soap*.  
 Tinctura saponis et opii, *tincture of soap and opium*.  
 Ceratum saponis, *soap cerate*.  
 Emplastrum saponis, *soap plaster*.  
 Murias sodæ, *muriate of soda*.  
 Murias sodæ exsiccatus, *dried muriate of soda*.  
 Acidum sulphuricum, *sulphuric acid*.  
 Acidum arseniosum, *arsenious acid*.  
 Bitumen petroleum, *petroleum*.  
 Oleum petrolei, *oil of petroleum*.  
 Subboras sodæ, *subborate of soda*, or *borax*.  
 Subacetas cupri, *subacetate of copper*, or *verdigrise*.  
 Oxymel æruginis, *oxymel of verdigrise*.  
 Unguentum acetitis cupri, *ointment of subacetate of copper*.  
 Calx, *quicklime*.  
 Linimentum aquæ calcis, *liniment of lime wa-*  
*ter*

## IV. GASEOUS PRODUCTS.

Gas oxygenium, *oxygen gas*.  
 Gas oxidum azotii, *gaseous oxide of azote*.  
 Electricitas et galvanisatio, *electricity and galvanism*.  
 Balneum calidum, *the hot bath*.

The substances enumerated in the above table have been variously denominated, according to their real or supposed medical virtues. Of the internal stimulants, most have been called cordials, from the effect they have in raising the spirits; some have been termed carminatives, (see *carminatives*), under which head rank most of the aromatic herbs, roots, and seeds. Of the external stimulants many are called rubefacients, from the effect they have in irritating and consequently reddening the skin; and of these the principal are mustard, cantharides, and the stinging nettle.

## CLASS XIII. ANTISPASMODICS.

Those medicines which have been found by experience to put a stop to convulsive motions, or spasmodic contractions of the muscular fibres, are called *antispasmodics*. Most of them are stimulants, some narcotics, and some are considered as specific antispasmodics.

## TABLE of ANTISPASMODICS.

## I. ANIMAL PRODUCTS.

Murias ammoniæ, *muriate of ammonia*. See table of *Stimulants*.  
 Moschus moschiferus, *musk*.  
 Mistura moschata, *musk mixture*.  
 Cervus elaphus.  
 Oleum animale, *animal oil*.  
 Castor fiber, *castor*.  
 Tinctura castorei, *tincture of castor*.  
 Tinctura castorei composita, *compound tincture of castor*.

## II. VEGETABLE PRODUCTS.

Cephaëlis ipecacuanha, *ipecacuanha*.  
 Nicotiana tabacum, *tobacco smoke*.  
 Ferula asafœtida, *asafœtida*.  
 Alcohol ammoniatum fœtidum, *fetid ammoniated alcohol*.  
 Pilulæ asafœtidæ compositæ, *compound pills of asafœtida*.  
 Emplastrum asafœtidæ, *asafœtida plaster*.  
 Alcohol.  
 Æther sulphuricus, *sulphuric æther*.  
 Laurus camphora, *camphor*.  
 Emulsio camphorata, *camphorated emulsion*.  
 Mistura camphorata, *camphorated mixture*.  
 Tinctura camphoræ, *tincture of camphor*.  
 Linimentum camphoræ compositum, *compound liniment of camphor*.  
 Papaver somniferum, *opium*.  
 Tinctura opii, *tincture of opium*.  
 Tinctura opii camphorata, *camphorated tincture of opium*.



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tics.

Tinctura opii ammoniata, *ammoniated tincture of opium*.  
 Electuarium opiatum, *opiate electuary*.  
 Pilulæ opii, *opium pills*.  
 Bubon galbanum, *galbanum*.  
 Tinctura galbani, *tincture of galbanum*.  
 Pilulæ galbani compositæ, *compound pills of galbanum*.  
 Vitis vinifera.  
 Vinum rubrum lusitanum, *red Port wine*.  
 Citrus aurantium, *orange leaves*.  
 Artemisia absinthium, *common wormwood*.  
 Sub-carbonas potassæ impurus, *impure subcarbonate of potash*.  
 Aqua potassæ, *water of potash, or soap ley*.  
 Cardamine pratensis, *ladies smock*.  
 Conium maculatum, *hemlock*.  
 Succus spissatus conii maculati, *inspissated juice of hemlock*.  
 Fuligo ligni combusti, *wood foot*.  
 Hyoscyamus niger, *henbane*.  
 Succus spissatus hyoscyami nigri, *inspissated juice of henbane*.  
 Valeriana officinalis, *valerian*.  
 Tinctura valerianæ, *tincture of valerian*.  
 Tinctura valerianæ ammoniata, *ammoniated tincture of valerian*.  
 Extractum valerianæ sylvestris resinosum, *resinous extract of wild valerian*.

## III. MINERAL PRODUCTS.

Hydrargyrum, *mercury*.  
 For most preparations of mercury, see table of Sialogogues.  
 Bitumen petroleum, *petroleum*.  
 Oleum petrolei, *oil of petroleum*.  
 Succinum, *amber*.  
 Oleum succini, *oil of amber*.  
 Oleum succini purissimum, *purified oil of amber*.  
 Sal succini, *salt of amber*.  
 Spiritus ammoniæ succinatus, *succinated spirit of ammonia*.

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Effects and  
uses of anti-  
spasmodics.

All those substances which, whether introduced into the body or applied to its surface, have been found by experience to put a stop to convulsive movements or rigid contractions of the muscular fibres, are termed antispasmodics. Of these substances there are many which differ from each other very widely, both in respect of sensible qualities and chemical composition; which indeed is not surprising, when it is considered that spasmodic affections occur in various and even opposite states of the body; a circumstance which calls for nice discrimination on the part of the practitioner in the use of these remedies. Some of them being considerably stimulant in their operation, aggravate rather than alleviate spasm, when associated with plethora or obstruction. It is therefore of great importance to attend carefully to the state of the patient's body, previously to the exhibition of these medicines; to premise and accompany their use in epilepsy, chorea, and hysteria, by proper evacuations; and to select from the great variety of articles which this class contains, such

as are best adapted to the particular form of spasm which it is our business to cure.

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tics.

## CLASS XIV. NARCOTICS:

This term has been usually applied to those remedies which are calculated to relieve pain and procure sleep. They have also been termed anodynes and hypnotics, and most of them were formerly ranked in the class of sedatives.

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Definition  
of narcotics.

## TABLE of NARCOTICS.

## I. VEGETABLE PRODUCTS.

Nicotiana tabacum, *tobacco*.  
 Vinum nicotianæ tabaci, *tobacco wine*.  
 Aconitum neomontanum, *aconite*.  
 Succus spissatus aconiti napelli, *inspissated juice of aconite*.  
 Papaver somniferum, *opium; white poppy heads*.  
 Tinctura opii, *tincture of opium*.  
 Tinctura opii camphorata, *camphorated tincture of opium*.  
 Syrupus opii, *syrup of opium*.  
 Extractum papaveris somniferi, *extract of white poppy heads*.  
 Pulvis opiatum, *opiate powder*.  
 Electuarium opiatum, *opiate electuary*.  
 Pilulæ opii, *opium pills*.  
 Rhododendron chrysanthum, *yellow-flowered rhododendron*.  
 Digitalis purpurea, *foxglove*.  
 Tinctura digitalis purpureæ, *tincture of foxglove*.  
 Arnica montana, *leopard's bane*.  
 Rhus toxicodendron, *poison oak*.  
 Conium maculatum, *hemlock*.  
 Succus spissatus conii maculati, *inspissated juice of hemlock*.  
 Hyoscyamus niger, *henbane*.  
 Succus spissatus hyoscyami nigri, *inspissated juice of henbane*.  
 Tinctura hyoscyami nigri, *tincture of henbane*.  
 Atropa belladonna, *deadly nightshade*.  
 Datura stramonium, *thorn-apple*.  
 Humulus lupulus, *hop*.  
 Lactuca virosa, *wild lettuce*.  
 Papaver rhœas, *wild poppy*.  
 Syrupus papaveris erratici, *syrup of wild poppy*.  
 Sium nodiflorum, *creeping skerrit*.

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Table of  
narcotics.

There is no class of medicines in the administration of which more judgement and discrimination are requisite than in the administration of those which are termed narcotics. When given in full doses, much good or much mischief is sure to follow, according as they are prudently or mistakingly prescribed. What a common practice it is to give them whenever a patient complains of pain, without duly investigating the cause of that pain; whether it be the consequence of high inflammatory action, of a plethoric condition, or of a suppression of some periodical or habitual discharge! In these cases to prescribe any of the medicines belonging to this class,

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Effects and  
uses of nar-  
cotics.



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tics.Therapeu-  
tics.

class, in a full or considerable dose, before the remedies suited to remove inflammation, plethora, and obstruction had been resorted to, would only serve to aggravate the disease. And even where there is no condition of the body which contraindicates the use of narcotics, it is of great importance to adapt the doses not only to the age and constitution of the patients, but likewise to the particular form of the disease. For instance, in tetanus, hemicrania, and colica pictonum, opium, and other narcotic medicines, may be given in large doses with excellent effect; but in phthisis pulmonalis, typhus fever, and some other states of debility, small doses, repeated at proper intervals, are found to answer best.

In the administration of narcotics, it is moreover proper to consider whether in the particular case in which they appear to be indicated, they should be prescribed alone, or in combination with other medicines; and if in the manner last mentioned, with what sort of adjuncts. Thus, in cases of lyncchus, acute rheumatism, and the early stage of dysentery, they should be given in combination with calomel and antimonials; in cases of asthma and phthisis pulmonalis, with ammoniacum, squill, and other expectorants; in cases of cholera, with diluents and demulcents; in cases of diarrhoea, with astringents and aromatics; in hemorrhagic cases, with sulphate of zinc and other styptics; in hysteria, with the volatile alkali, ether, and fetids; in convulsive affections, especially such as occur in children, with magnesia and other antacids\*.

\* Synopsis  
of Materia  
Medica,  
vol. ii.

p. 228,  
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Definition  
of anthelmin-  
tics.

## CLASS XV. ANTHELMINTICS.

Those medicines which are employed with a view to expel worms from the bowels, are called *anthelmintics*.

## TABLE of ANTHELMINTICS.

## I. ANIMAL PRODUCTS.

Murias ammoniæ,  *muriate of ammonia.*

Aqua carbonatis ammoniæ,  *water of carbonate of ammonia.*

## II. VEGETABLE PRODUCTS.

Anthemis nobilis,  *chamomile flowers.*

Extractum anthemidis nobilis,  *extract of chamomile.*

Nicotiana tabacum,  *tobacco in clysters.*

Olea europæa,  *olive oil in clysters.*

Allium sativum,  *garlic.*

Ferula asafoetida,  *asafoetida in clysters.*

Convolvulus jalapa,  *jalap.*

Convolvulus scammonia,  *scammony.*

Pulvis scammonii compositus,  *compound powder of scammony.*

Helleborus foetidus,  *stinking hellebore.*

Rheum palmatum,  *rhubarb in small doses.*

Ricinus communis,  *castor oil.*

Stalagmitis cambogioides,  *gamboge.*

Ruta graveolens,  *rue.*

Oleum volatile rutæ,  *oil of rue.*

Juglans regia,  *walnut rind.*

Tanacetum vulgare,  *tansy.*

Valeriana officinalis,  *valerian.*

Artemisia santonica,  *worm-seed.*

Dolichos pruriens,  *cowhage.*

Geoffroea inermis,  *cabbage-tree bark.*

Polypodium filix mas,  *male fern root.*

Spigelia marilandica,  *Carolina pink.*

## III. MINERAL PRODUCTS.

Hydrargyrum,  *mercury.*

Submurias hydragyri,  *submuriate of mercury.*

Murias sodæ,  *muriate of soda.*

Ferrum,  *iron.*

Carbonas ferri,  *carbonate of iron.*

Sulphas ferri,  *sulphate of iron.*

Ferri limaturæ purificatæ,  *purified iron filings.*

Tartris ferri et potassæ,  *tartrate of iron and potash.*

Calx,  *lime.*

Aqua calcis,  *lime water in clysters.*

Stannum,  *tin.*

Stanni pulvis,  *powder of tin.*

Of the medicines which belong to this class, some <sup>184</sup> destroy the different species of worms which breed in <sup>Effects and</sup> the alimentary canal, by their chemical, others by their <sup>uses of an-</sup> mechanical action upon those animals; but by far the <sup>thelmintics.</sup> greater number of anthelmintic or vermifuge medicines operate in no other manner than as drastic purges, bringing away the morbid accumulation of slime from the intestines, and with the slime, the worms which were lodged in it. After the worms have been brought away by these remedies, the bowels should be strengthened by bitters and other tonic medicines; and the use of green vegetables, or much garden stuff of any kind, and of malt liquor, should be forbidden.

## CLASS XVI. CHEMICAL REMEDIES.

Several of the substances that have been enumerated <sup>188</sup> in the foregoing tables, act also on the animal system <sup>Chemical</sup> merely as chemical re-agents, either by counteracting <sup>remedies.</sup> acidity, dissolving calculous concretions, destroying fungous excrescences, &c. We shall here enumerate all the substances that may be considered as chemical remedies, and shall afterwards class them according to their particular action.

## TABLE of CHEMICAL REMEDIES.

## I. ANIMAL PRODUCTS.

Murias ammoniæ,  *muriate of ammonia.*

Aqua ammoniæ,  *water of ammonia.*

Carbonas ammoniæ,  *carbonate of ammonia.*

Aqua carbonatis ammoniæ,  *water of carbonate of ammonia.*

Sal cornu cervi,  *salt of hartshorn.*

Cervus elaphus,  *hartshorn.*

Phosphas calcis,  *phosphate of lime.*

Cornu cervi utrum præparatum,  *burnt hartshorn.*

Cancer astacus,  *crabs eyes.*

Cancer pagurus,  *crabs claws.*

Chelæ cancerorum præparatæ,  *prepared crabs claws.*

Pulvis è chelis cancerorum compositus,  *compound powder of crabs claws.*

Gorgonia nobilis,  *red coral.*

Corallium rubrum præparatum,  *prepared red coral.*

Ostrea.

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Table of  
anthelmin-  
tics.

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Table of  
chemical  
remedies.



- Ostrea edulis, oyster shells.*  
*Teddæ ostreæ præparatæ, prepared oyster shells.*  
*Spongia officinalis, sponge.*  
*Spongia usta, burnt sponge.*

## II. VEGETABLE PRODUCTS.

- Carbonas potassæ, carbonate of potash.*  
*Aqua potassæ, water of potash, or caustic ley.*  
*Potassa, potash.*  
*Potassa cum calce, potash with lime.*  
*Carbonas potassæ, carbonate of potash.*  
*Carbonas potassæ purissimus, purified carbonate of potash.*  
*Aqua carbonatis potassæ, water of carbonate of potash.*  
*Aqua supercarbonatis potassæ, water of carbonate of potash.*

## III. MINERAL PRODUCTS.

- Sulphas cupri, sulphate of copper.*  
*Sulphuretum antimonii, sulphuret of antimony.*  
*Murias antimonii, muriate of antimony.*  
*Sulphur sublimatum, flowers of sulphur.*  
*Sulphuretum potassæ, sulphuret of potash.*  
*Hydrosulphuretum ammoniæ, hydrosulphuret of ammonia.*  
*Nitras potassæ, nitrate of potash.*  
*Acidum nitrosum, nitrous acid.*  
*Acidum nitricum, nitric acid.*  
*Sapo hispanus, Castile soap.*  
*Murias sodæ, muriate of soda.*  
*Acidum muriaticum, muriatic acid.*  
*Sulphas magnesiæ, sulphate of magnesia.*  
*Carbonas magnesiæ, carbonate of magnesia.*  
*Magnesia, magnesia.*  
*Trochisci magnesiæ, lozenges of magnesia.*  
*Acidum sulphuricum, sulphuric acid.*  
*Acidum sulphuricum dilutum, diluted sulphuric acid.*  
*Superulphas aluminæ et potassæ, superulphate of alumina and potash, or alum.*  
*Sulphas aluminæ exsiccatus, dried sulphate of alum.*  
*Argentum, silver.*  
*Nitras argenti, nitrate of silver.*  
*Oxidum arseniosum, arsenious acid.*  
*Calx, quicklime.*  
*Aqua calcis, lime water.*  
*Bolus gallicus, French bole.*  
*Carbonas calcis, carbonate of lime, chalk.*  
*Carbonas calcis præparatus, prepared carbonate of lime.*  
*Pulvis carbonatis calcis compositus, compound powder of carbonate of lime.*  
*Trochisci carbonatis calcis, lozenges of carbonate of lime.*  
*Potio carbonatis calcis, potion of carbonate of lime.*  
*Aqua aëris fixi, water of fixed air.*  
*Carbonas sodæ impurus, impure carbonate of soda.*  
*Carbonas sodæ, carbonate of soda.*  
*Aqua super-carbonatis sodæ, water of supercar-  
 bonate of soaa.*

Of the substances above enumerated, some act as antacids, correcting morbid acidity in the stomach and bowels; as most of the preparations of ammonia, burnt hartshorn, crabs eyes and claws, coral, egg shells, carbonates of potash and soda with their preparations, magnesia, lime, and carbonate of lime. These have been often called *absorbents*.

Several of the chemical remedies act in a greater or less degree as lithontriptics, or such medicines as are capable of dissolving urinary calculi. The principal lithontriptics are, solutions of caustic potash, soap, sulphuric and muriatic acids, and carbonate of soda.

"From the exhibition of alkaline remedies," says Mr Murray, "the symptoms arising from a stone in the bladder are very generally alleviated; and they can be given to such an extent, that the urine becomes sensibly alkaline, and is even capable of exerting a solvent power on these concretions. Their administration cannot, however, be continued to this extent for any considerable length of time, from the strong irritation they produce on the stomach and urinary organs. The use, therefore, of the alkalies as solvents, or lithontriptics, is now scarcely ever attempted; they are employed merely to prevent the increase of the concretion, and to palliate the painful symptoms, which they do, apparently by preventing the generation of lithic acid, or the separation of it by the kidneys; the urine is thus rendered less irritating, and the surface of the calculus is allowed to become smooth.

"When the alkalies are employed with this view, they are generally given saturated, or even super-saturated with carbonic acid. This renders them much less irritating. It at the same time diminishes, indeed, their solvent power; for the alkaline carbonates exert no action on the urinary calculi; but they are still equally capable of correcting that acidity in the *primæ viæ*, which is the cause of the deposition of lithic acid from the urine, and therefore serve equally to palliate the disease. And when their acrimony is thus lessened, their use can be continued for any length of time \*."

From the inconsiderable action which most of the lithontriptics can with safety be made to exert, when given by the mouth, it was some years ago proposed to apply them directly to the calculus, by injecting them through the urethra into the bladder. † In this way it is evident that their action must be much greater, and when the substances are used in a state of sufficient dilution, the practice is said to be perfectly safe.

Several of the chemical remedies are employed externally as caustics or escharotics, to destroy fungous or callous parts of the body; to open an ulcer, or to change the diseased surface of a fore. The principal escharotics are, sulphuric and muriatic acid when concentrated; pure potash, nitrate of silver, muriate of antimony, sulphate and subacetate of copper, corrosive muriate of mercury, and arsenious acid.

A few are employed both externally and internally, to check putrefaction, or to correct the unpleasant smell of particular secretions, or of ulcers. The principal of these are charcoal, and carbonic acid, though the mineral acids have also this effect.



PART. III. PRINCIPLES OF PHARMACY.

CHAP. I. *General Operations of Pharmacy.*

THE operations of pharmacy are either mechanical or chemical. By the first the various articles employed in medicine are reduced to a proper state for exhibition, by cutting, rasping, grinding, pounding, &c.; and by the second they are subjected to various complex operations, which produce certain chemical changes in their nature and properties.

To the first of these heads we may refer the collection and preservation of simples. This chiefly refers to these articles that are of a vegetable nature, and which are either used fresh, or in a dried state.

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Collection  
and preservation of  
simples.

Vegetables should be gathered chiefly from those soils in which they naturally delight, or in which they are found most commonly to rise spontaneously; for though many of them may be raised, and made to grow with vigour in very different soils, their virtue generally suffers by the change. A variation of seasons occasions also differences considerable enough to require often an allowance to be made in the quantity; plants in general proving weaker, though more luxuriant, in rainy than in dry seasons. Herbs and flowers are to be gathered in a clear dry day, after the morning dew is gone off from them. Leaves, for the most part, are in their greatest perfection, when come to their full growth, just before the flowers appear: flowers, when moderately expanded; seeds, when they begin to grow dry, before they fall spontaneously; woods and barks, as is supposed, in the winter; annual roots, before the stalks begin to rise; biennial roots, in the autumn of the first year; perennial roots, in the autumn after the leaves have fallen, or early in the spring before they begin to vegetate.

Of the vegetables which lose their virtue in being dried, the greater number, perhaps all, may be preserved for a considerable length of time, by impeding the exhalation of their natural moisture; for so long as they retain this, they seem to retain also their medical activity. Thus, roots have their virtue preserved by being buried in sand, which should be dry, that they may not vegetate; leaves and flowers, of a more corruptible nature than roots, by being beaten with about thrice their weight of fine sugar to prevent their corruption, and kept in a close vessel.

Plants which bear drying, are commonly hung in a warm airy place, defended from the sun. The colours of herbs and flowers are for the most part changed or destroyed in drying, by the sun's beams; but that their medicinal virtue suffers a like diminution, does not appear. This much is certain, that the heat of a culinary fire, equal to that of the sun in summer, does them no injury in either respect; and that both flowers and leaves, when thus hastily dried by fire, preserve the liveliness of their colour, and their smell and taste, more perfectly than by slow drying. The leaves of moderately juicy plants are reduced, by drying, to about one-fourth of their original weight.

Some roots, and some other parts of vegetables, how thoroughly soever they have been dried, are liable, in keeping, to grow mouldy and carious. This inconvenience might probably be obviated by dipping them, when dried, in boiling spirit of wine, or exposing them to its vapour in a close vessel. It is said, that some of the oriental spices are made less perishable, by being dipt in a mixture of lime and water\*.

The drawers in which vegetable drugs are kept, should be made of such materials as are not likely to impart to them any unpleasant taste or smell; and the better to avoid this, they should be lined with paper. Such matters as are volatile, or which are likely to suffer from exposure to the air, or from insects, should be kept in glass vessels well stoppered. Such fruits and oily seeds as are liable to become rancid, by being too warm, should be preserved in a dry cool place.

\* Lewis's  
*Materia Medica.*

As most vegetable substances lose much of their sensible properties by long keeping, or acquire others which render them less proper for being used as internal medicines, they should be frequently replaced.

One of the most common operations to which dry drugs are subjected, is that of being reduced to powder, by which they are rendered more efficacious, and are more conveniently exhibited. The pulverization of these matters is usually performed by means of pestles and mortars. These should be made of such materials as are not likely to impart to the powdered substance any noxious properties, and should at the same time be sufficiently hard, not to be broken or worn away during the operation. For the powdering of barks, roots, and similar substances, cast-iron mortars are the most convenient; and for such articles as are of a more brittle nature, mortars of glass or marble are commonly employed. All those made of copper, or any of its alloys, should be carefully avoided, as when the substance is very hard, or of such a nature as to act chemically on the metal, some portion of copper may be mixed with the medicine, and render it a virulent poison. For many purposes mortars made of common stoneware answer very well; but the best mortars of this kind are those made of well-baked clay, commonly called *Wedgerwood's mortars*. The bottom of all these mortars should be hollow on the inside, and flat on the outside, and their sides should be moderately inclined. Those which are employed for reducing to powder such substances as produce much dust, should be provided with covers, both to prevent the lighter parts of the powder from being lost, and to defend the operator from being injured by such substances as are of a corrosive or poisonous nature. In general, wooden covers that have a rim to prevent their sliding off, and a hole sufficiently large to admit of the introduction of the pestle, answer very well; but where it is of consequence that no part of the article should escape, it is better to tie round the mouth of the mortar, and round the pestle, a piece of pliable leather, sufficiently large to admit of the free motion of the latter. Where this is not done, it will be proper for the operator to cover his mouth and nose with a handkerchief.

195  
*Pulveriza-*



Principles of Pharmacy. that a current of air shall direct the acid powder from him.

To avoid losing much of these light dry powders, a little spirit of wine, or oil, is sometimes put into the mortar, to prevent the lighter parts of the powder from rising. Care should, however, be taken, that the substance is of such a nature as not to be dissolved by the spirit, nor injured by the rancidity that the oil is likely to acquire; and in every case, as little as possible of either should be employed.

It is obvious that in reducing drugs to powder, too much of the article should not be put at once into the mortar.

Several substances require previous preparation before powdering; barks, woods, roots, should be perfectly dry, and should be either sliced or rasped before putting into the mortar; and such roots as are covered with a very fibrous bark, should be shaved after this has been removed, to take away such hairy filaments as are usually found between the bark and the wood. Gummy resinous substances, such as myrrh, which are liable to become soft when heated, should be powdered in very cold weather; and it is better, first to reduce them to a coarse powder, and expose this to the air for a day or two, before completing the pulverization, which will then be more easily effected. Some substances cannot be reduced to powder without the addition of some other matter; thus, camphor requires a little alcohol or oil; the emulsive feeds require the addition of some dry powder, and for aromatic oily substances, the addition of a little sugar is proper.

196  
Sifting.

In order to separate the finer powder from the rest of the substance, apothecaries employ sieves of various forms. For such articles as require to be kept close, the sieve is composed of three parts; a middle part, which is properly the sieve for separating the finer part of the powder, a bottom for receiving the powder, and a top for preventing the escape of the finer dust.

When as much of the powder as is sufficiently fine, has passed through the sieve, the rest is to be returned into the mortar, and the pulverization continued and repeated, till as much as possible has passed the sieve. All the parcels of powder are then to be intimately mixed together, by rubbing them for a considerable time in the mortar.

197  
Trituration.

Trituration consists in rubbing dry substances that are already pretty small in order to reduce them to a very fine powder, or to mix them intimately together. In the small way it is performed in the usual mortars; in the large way by means of a roller moved by water or by horses.

198  
Levigation.

When it is required to reduce dry substances to a very fine, or what is called an *impalpable powder*, recourse is had to the operation called *levigation*, which is nothing more than rubbing the substance for a long time in a broad flat mortar, or upon a hard stone, with a muller, adding from time to time a little water or alcohol, so as to reduce the substance operated on to a kind of paste. This paste is rubbed till it is as smooth as possible, and is then spread on a stone or flat cake of chalk, till it is sufficiently dried. Sometimes levigated powders are made up into little conical lumps, and dried in that form. The substances on which leviga-

tion is performed are chiefly earths and metallic oxides.

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For the purpose of reducing metals into minute particles, they are either filed or granulated. It would not be improper that apothecaries should always prepare their own iron filings, as those procured from a smith's shop are generally very impure. The granulation of metals is effected by melting the metal, and either stirring it briskly with an iron rod till it is cold, or pouring it into water and stirring it as before; or lastly, by pouring it into a covered box, having its inside well rubbed with chalk, in which it is well shaken till cold, when the adhering chalk is to be washed away.

199  
Granulation.

Another mode of procuring the finest particles of such substances as are not soluble in water, is by what is termed *elutriation*, which is performed by diffusing in water the powder or paste to which they have been reduced by pulverization or levigation, and after the coarser particles have subsided, pouring off the water that holds in suspension the finer parts. The operation of levigation and subsequent diffusion is repeated, till as much as is required of the fine powder is obtained. This is afterwards to be separated from the water, either by decantation or filtration.

200  
Elutriation.

When the powder is so heavy as readily to fall to the bottom of the vessel, it is most conveniently separated by decanting off the water, either by pouring it gently off as long as it comes over clear, or by means of a crooked glass syphon fixed in a board that goes over the mouth of the vessel to keep it steady, as represented at fig.

201  
Decantation.

When the powder does not readily subside, it is best separated by filtration, which is performed by means of a cone of common blotting paper, inserted into a funnel, or by means of a cloth or flannel bag. After all the fluid has passed through the filter, the powder that remains on the paper is to be carefully dried.

202  
Filtration.

Decantation and filtration are more commonly employed to obtain any liquor clear from the powdery or other matters with which it is mixed.

For obtaining the juices of vegetables or fruits, or the oils of seeds, &c. recourse is had to *expression*. The plants or fruits are put into bags or wrappers made of haircloth, and subjected to strong pressure by means of a screw press, the plates of which should be made of wood or tin, and by no means of lead. The pressure employed should at first be gentle, and should be increased gradually. The oily seeds or nuts are pressed between iron plates, which are usually warmed; but when used cold, the oil is milder and not so liable to become rancid.

203  
Expression.

Besides the mortars mentioned above, there are several other instruments employed in the operations of pharmacy, on which it is proper to make a few remarks.

Funnels ought to be made of tinned iron, or of glass; or of the same sort of baked earth or clay as the mortars, or of silver or of block tin.

204  
Funnels.

Vessels used for preparing infusions, or for evaporating liquors, or for putting decoctions or other liquors into, to cool, ought to be made either of porcelain, or of stoneware, or of baked clay, or of earth such as the mortars are made of, or of glass; or such vessels as are not acted upon either by acid or alkaline liquors.

205  
Infusing vessels.

For



Principles of Pharmacy. For the same reasons, measures of all sorts, from the dram to the quart, ought to be made of tinned iron, or of stoneware, or of the baked earth or clay, or of glass; silver might be employed for the smaller measures of drams and ounces, and if taken care of, would in the end prove cheaper than the others: if other metallic vessels are used, the metal ought to be of such a sort as not to be affected by acid or alkaline, or other liquors; and they ought at all times to be kept extremely clean.

In distilling, in melting, and in calcining different bodies, no vessels ought to be employed which may be acted upon by, and give a noxious quality to, the substances to be prepared.

Most colleges of physicians in Europe formerly directed, that both weights and measures should be employed for dispensing medicines, ordering solid substances to be prepared by weight, fluid by measure; and they gave tables of the weights and measures they wished should be used, in the beginning of their different dispensaries: but it having been found that the promiscuous use of weights and measures gave sometimes occasion to mistakes, the colleges of Edinburgh and of Stockholm have, in the last edition of their pharmacopœias, rejected entirely the use of measures, and ordered both fluid and solid substances to be prepared by weight. It is to be wished that all the colleges in Europe would follow their example.

Measures made to contain a certain determined weight of water are certainly very useful in pharmacy; but if such are allowed they ought to be employed only for measuring watery liquors, as the specific gravities of other fluids differ so much from one another.

In every country, all weights and measures used for the preparation of medicines ought to be made according to the directions of the college of physicians; standards of them ought to be kept in proper places, and all those ought to be stamped, to shew that they were made according to the standard.

The principal *chemical* operations of pharmacy may be arranged under the following heads.

1. The infusing certain substances in cold or in hot water, or in wine, to extract their saline or light gummy parts, together with some of their fine volatile principles, which are miscible with water.

2. The boiling them in water to extract the same principles, together with others that are more fixed, or which are capable of being dissolved by heat, and afterwards of being kept suspended by the gummy and mucilaginous parts which have been dissolved in the water; thus a certain proportion of resin is found to be suspended in decoctions of the bark, of opium, and of other drugs.

3. The evaporating watery infusions and decoctions, and the expressed juices of many vegetables, to obtain their fixed parts which have been dissolved in a watery menstruum. In this manner jellies, robs, and extracts, are prepared.

4. The infusing or digesting certain vegetable substances in pure vinous spirit to extract their fine volatile oils and their resinous parts; or in spirit mixed with water, called proof-spirit, to extract along with those principles, some of their gummy parts.

5. The evaporating of such tinctures to obtain their resinous and more fixed parts; in which way resinous

extracts are got from bark, jalap, from opium, and from other substances.

6. The distilling fragrant vegetable substances with water, in order to procure their fine volatile principles, which come over with the water into the vessels placed to receive it. In this manner the simple distilled waters (as they are called), which have the flavour and taste of the substances from which they are distilled, are prepared; and the fine essential oils of the plants which have been distilled are found either floating on the top of the water, or sunk to the bottom of it, according as they are specifically lighter or heavier than water.

7. The distilling of the same substances in vinous spirit to obtain the same fragrant volatile parts, intimately united with the spirit; in which manner are made the spirituous liquors improperly called spirituous waters.

In distilling, care ought to be taken to make the vapours which arise condense properly in the vessels set to receive them when they have assumed the form of a liquor; which is to be effected, 1. By regulating the fire, and never raising the degree of heat beyond what is necessary; and, 2. By making the vapours pass through such a cool medium, as will condense them into a liquid.

1. The degree of heat is regulated by the figure of the furnace in which the fire is placed, and by the quantity of wood or of coal that is used. Where a great degree of heat is wanted, the vessels are put in an open fire, placed in a reverberatory furnace. Where a less degree of heat is sufficient, they are put into sand contained in an iron pot, below which the fire is lighted in a common furnace. Where a still smaller degree is required, the vessel is put into a pot with sand, and a lamp in place of coals fixed below it. At other times the retort, or vessel with the liquor to be distilled, is put into a vessel full of water or other liquor, set over a fire, so that it cannot be heated beyond a certain degree.

2. The condensation of vapours arising from substances subjected to distillation is effected, as before observed, by making the vapour pass through such a cool medium, as will condense it into a liquor before it reaches the bottom of the vessels set to receive it.

In distilling medicated waters or spirits, the herbs or other vegetable substances, and the water or the spirit, are put into a still placed in a proper furnace, on which is fixed a large head, with a long crane-necked or curved tube coming from the top of it, which after descending and going off a little to one side, enters into the upper end of a long spiral pipe, called a worm, which is fixed in a large cask, called the worm-tub or refrigerator, with its two ends piercing the cask; and to its lower end is fixed a proper vessel for receiving the distilled liquor. The worm-tub, which has a cock at the lower part of it for letting out water occasionally, is filled with cold water before the distillation begins, and is renewed in the course of the distillation if it begins to heat, by drawing it off by means of the cock, and pouring fresh cold water into the worm-tub. After every thing is fitted, the fire is lighted, and the distillation is continued so long as the water comes over sufficiently impregnated with the vegetable substances put into the still.

In the distillation of vegetable or animal substances



1. That there ought to be put into the still such an additional quantity of water as will prevent the solid substances which are subject to the distillation from being burnt, as this additional water does not at all weaken the produce; for the most volatile parts of the subject rise first, and impregnate the liquor which first comes over, and the water remains behind in the still. 2. That a gentle fire, such as is just capable of keeping the liquor boiling, is preferable to a strong fire, particularly towards the end of the process. 3. That the distillation is to be continued so long as the liquor comes over fully impregnated with the volatile parts of the vegetable substances which are the subjects of the distillation; but is to be put an end to, so soon as it is perceived to become weak, which is known by tasting from time to time the liquor which comes over.

8. The distilling of vegetable or animal substances in retorts without water, in order to make them rise, and bring over by the force of fire, their watery parts, an acid, or volatile alkaline salt, according to what nature the substances are of, and an empyreumatic oil, into the receiver; and to get the more fixed, earthy, and oily parts, which are left behind in the retort.

In distilling substances which require a greater degree of heat to raise their volatile parts, than the liquors above mentioned, or which are of such a nature as to act upon, and corrode the vessels employed in these processes just mentioned, it is necessary to use the vessels made of glass or of earth, which have been called retorts, from their neck being bent on one side. Such retorts are employed in pharmacy for distilling the mineral and the vegetable acids, and the preparations made from them; in distilling animal and vegetable substances by themselves to procure their watery, saline, or oily parts; for purifying quicksilver, and preparing the *muriate of antimony*, &c. and they may be used as subliming glasses for making mercurial and other preparations.

In distilling with retorts, the matter to be distilled is put into the retort, which is commonly placed in sand, contained in an iron pot, fixed above a furnace, into which the fire is put; but on some particular occasions, where only a small degree of heat, not exceeding that of boiling water, is wanted, the retort is placed in a water-bath.

After the retort containing the matter to be distilled is fixed, the end of it is either put immediately into the mouth of another long-necked vessel called a receiver (from its being placed to receive the distilled liquor), and the two vessels are luted together by means of a proper cement; or it is first put into the end of a long glass tube called an adapter, which is luted to it, and the other end of the tube is put into the mouth of the receiver, and fixed to it by means of a cement.

The receivers are either made round like a decanter, without any other opening than the mouth; or they are made with a tube coming out from their bottom, or from the side near it, to which another receiver may be fixed, and when they are thus made they are called tubulated receivers, and are very convenient for performing processes where the matter put into the retort yields products of different kinds, as in the distillation of spirit with the mineral acids; for the receiver of bottle fixed to the tube may be changed as the differ-

ent products come over, so that each of them may be obtained separately. And in distilling substances which yield very volatile products, one tubulated retort may be put after another so as to enlarge the space for the condensation of vapours; and in distilling these very volatile substances it is sometimes necessary to make a small puncture into the lutes between the retort and the receiver, to allow some of the vapour to escape to prevent its bursting the vessels.

The use of the long intervening tube called an adapter, which is put often between the retort and the receiver, is to increase the distance from the retort (that is immediately exposed to heat) to the receiver; so that the receiver may be in less danger of being heated, and that the vapour may be cooled in its passage through this tube, and condense more readily in the receiver. It is likewise of another use, which is to give us an opportunity of seeing the vapour in its passage from the retort to the receiver, so that we may know how the distillation is going forward, and when it is proper to change the receivers, when the different liquors come over from materials which yield products of different kinds.

9. The burning vegetable substances in an open vessel to obtain a fixt alkaline salt. <sup>212</sup> Incineration.

10. The burning the bones of animals, or the shells of fishes, to procure their earthy parts; in which manner the calcined hartshorn, the powder of crabs claws, and of oyster shells, are procured.

11. The mixing acid and alkaline salts in a fluid state, to form the neutral salts, which may be separated from the water either by evaporating, with a slow heat, such a quantity of the water as to allow the salts to shoot into crystals when set in a cool place, or by continuing the evaporation till the salts become dry. <sup>213</sup> Neutralization.

12. The dissolving certain metallic substances, or certain earths, in acid liquors, for obtaining metallic and earthy salts, which may be got in a solid form in the same manner as the neutral salts.

13. The evaporating the purified expressed juices of certain vegetable substances to the consistence of a cream, and then setting them by for months, in a cool place, to allow the essential acid salts to congregate into crystals. See CRYSTALLIZATION. <sup>214</sup> Crystallization.

14. The distilling in proper vessels vitriol or other substances which contain the sulphuric acid, in order to get it separate from them; and the burning of sulphur mixed with a small portion of nitre, under particular vessels, so contrived, and so placed, as to collect the same acid.

15. The distilling nitre, or sea salt, mixt with a certain portion of the sulphuric acid, in order to obtain pure the nitric or muriatic acid.

16. The subliming certain substances that become volatile by the application of heat, into proper vessels; and either to unite two of them together for the formation of a third, as is done in the preparation of the corrosive sublimate of mercury, when the muriatic acid is united to the quicksilver, or to separate the volatile parts of any substance from the fixt, as is done in the sublimation of volatile alkaline salts and of the acid of benjamin. <sup>215</sup> Sublimation.

17. The melting by the force of fire such substances as become fluid by the application of heat, so that they may be separated from or united to other bodies. Thus <sup>216</sup> Melting. by



Principles of Pharmacy. by particular management and the addition of certain substances, metals are separated from their ores. And rosin and bees-wax are intimately united together; or they are dissolved in fluid oils, for the preparation of plasters, ointments, liniments, &c. And sulphur is united to quicksilver for the making of a black or red sulphuret.

217  
Oxidation.

218  
Roasting.

18. The applying of heat to metals, either to oxidate them, or to separate certain volatile substances with which they are combined, or to purify them from more oxidable metals with which they are alloyed. Thus mercury is reduced to a red oxide merely by the continued application of heat and air; the sulphuret of antimony is deprived of its sulphur by roasting, and silver is separated from lead by being exposed to such a heat, as, while it only fuses the silver, reduces the lead to an oxide. See CHEMISTRY.

#### CHAP. II. Of the principal forms in which Medicines are exhibited.

219  
Official forms.

THE principal officinal preparations of the simple medicines, for the making of which directions are given in the Pharmacopœias, consist of *powders, pills, troches, electuaries, inspissated juices, extracts, infusions, decoctions, mucilages, emulsions and mixtures, syrups, tinctures, wines*, for internal exhibition; and *cataplasms, liniments, ointments, cerates, and plasters*, for external application.

220  
Powder.

The form of *powder* is one of the most simple, and very convenient for the exhibition of a variety of medicines. It is of course adapted only to such substances as are easily reduced to powder, and such as are not too bulky to be taken in a moderate dose. Hence emollient and mucilaginous herbs and roots are improperly ordered in the state of powder, as they are too bulky; alkaline salts, whether fixed or volatile, are improper, as they in general either deliquesce in the air, or evaporate. Such articles as are of a very disagreeable taste, or offensive odour, are also more conveniently given in some other form.

In preparing compound powders, care should be taken that the several ingredients should be intimately mixed together. Some of them may in general be most properly powdered separately, but it is often of advantage to powder them together. They should be kept in a closely stopped phial, and such as are apt to lose part of their virtue by long keeping, should be prepared in small quantities.

The dose of powders should be so regulated as seldom to exceed a dram. The substance in which they are to be taken should be of such a nature as to mix properly with them, so that they neither float at the top, nor sink too rapidly to the bottom of the vessel.

221  
Pill.

The form of *pill* is most convenient for such articles as do not require to be given in a large dose, and are so unpleasant in taste or smell, that they cannot be conveniently given in the form of powder. As many patients can swallow pills, who cannot take medicines in a less solid form, those substances which are usually ordered in powder, are not unfrequently formed into pills, when their bulk is not so great as to render the pills too numerous for a single dose.

The most usual substances that enter into the composition of pills are resins, gum-resins, extracts, and

Principles of Pharmacy. similar medicines. Deliquescent salts are usually improper except in small quantity, and then they should be combined with some gummy powder. Such salts as are efflorescent, as *carbonate of soda*, may enter into the composition of pills; but they should be previously exposed to the air, so as to fall into powder. The liquid substances employed to form the pills into a proper mass, must be varied according to the nature of the more solid ingredients. Powders require syrup, mucilage, balsams, soap, conserve, or honey. Gum resins and extracts are sometimes sufficiently soft without any addition; but when this is required, a little spirit or wine is the most proper. Where the mass is to be composed of a mixture of gum-resins and powders, the former should be first moistened with the prescribed liquid, then the powders added, and the whole beaten well together, till they are reduced into a uniform plastic mass.

A dram of the pilular mass is generally divided into about twelve pills, so that each pill may weigh about five grains.

The masses for pills should be kept in bladders, and these should be moistened now and then, either with a little wine, or with some of the same liquid that was employed in forming the mass.

222  
Troches. Troches or lozenges are hard, round, flat cakes, formed of such substances as are intended to be gradually dissolved in the mouth, and thus pass by degrees into the stomach, or in their passage thither act on the throat or larynx. They should be formed of such substances as are soluble in the saliva, and are not of a disagreeable taste. They usually contain a great deal of sugar, and some gummy matter to render them coherent.

223  
Electuaries. Electuaries are less solid than pills, being of such a consistence that they may be rolled up into a bolus, so as to be easily swallowed. They are chiefly composed of powders mixed up with syrup or honey. The substances that enter into the composition of electuaries are chiefly the milder alterative medicines, or gentle laxatives. The stronger cathartics, emetics, and such substances as are of an unpleasant taste, such as bitters, the fetid gum-resins, and very heavy powders, are improper. The liquid employed to form electuaries is usually syrup or honey, the proportion of which is regulated by the nature of the more solid ingredients, but is usually of nearly equal weight.

224  
Confections. Confections are now considered as synonymous with electuaries, as they differ from ordinary electuaries in nothing but being composed of more aromatic ingredients.

225  
Conserve. Conserve may be considered as electuaries formed of only two ingredients, one of which is sugar, and the other the pulp of some fruit, the petals of flowers, or the outer rind of Seville oranges.

226  
Extracts and resins. Extracts and resins are pharmaceutical preparations, the rationale of which is very little understood. Dr Andrew Duncan Junr. has given an excellent account of them, which we shall here copy.

“Extract in pharmacy has long been used, in the common and true acceptation of the term, to express a thing extracted, and therefore it was applied to substances of all kinds which were extracted from heterogeneous bodies, by the action of any menstruum, and again reduced to a consistent form, by the evaporation



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of that menstruum. Lately, however, extract has been used in a different and much more limited sense, as the name for a peculiar principle, which is often indeed contained in extracts, and which before had no proper appellation. It is in the former sense that we employ it here, and in which we wish it to be only used, while a new word should be invented as the name of the new substance. Till a better be proposed, we shall call it *extractive*.

“Extracts are of various kinds, according to the nature of the substances from which they are obtained, and the menstruum employed; but they commonly consist of gum, sugar, extractive tannin, cinchonin, gallic acid, or resin, or several of them mixed in various proportions. The menstrua most commonly employed are water and alcohol. The former is capable of extracting all the substances enumerated, except the resin, and the latter all except the gum. Wine is also sometimes employed, but very improperly; for as a solvent it can only act as a mixture of alcohol and water, and the principles which it leaves behind on evaporation are rather injurious than of advantage to the extract.

“Water is the menstruum most commonly employed in making extracts, as it is capable of dissolving all the active principles except resin, and can have its solvent powers assisted by a considerable degree of heat.

“Watery extracts are prepared by boiling the subject in water, and evaporating the strained decoction to a thick consistence.

“It is indifferent with regard to the medicine, whether the subject be used fresh or dry; since nothing that can be preserved in this process will be lost by drying. With regard to the facility of extraction, however, there is a very considerable difference; vegetables in general giving out their virtues more readily when moderately dried than when fresh.

“Very compact dry substances should be reduced into exceedingly small parts, previous to the affusion of the menstruum.

“The quantity of water ought to be no greater than is necessary for extracting the virtues of the subject. This point, however, is not very easily ascertained; for although some of the common principles of extracts be soluble in a very small proportion of water, there are others, such as tannin, of which water can dissolve only a small proportion, and cannot be made to take up more by any length of boiling; besides we have no very good method of knowing when we have used a sufficient quantity of water; for vegetable substances will continue to colour deeply successive portions of water boiled with them, long after they are yielding nothing to it but colouring matter. Perhaps one of the best methods is to boil the subject in successive quantities of water, as long as the decoctions form a considerable precipitate with the test which is proper for detecting the substance we are extracting, such as a solution of gelatin for tannin, of alum for extractive, &c.

The decoctions are to be depurated by colature, and afterwards suffered to stand for a day or two, when a considerable quantity of sediment is usually found at the bottom. If the liquor poured off clear be boiled down a little, and afterwards suffered to cool again, it will deposit a fresh sediment, from which it may be decanted before you proceed to finish the evaporation. The de-

coctions of very resinous substances do not require this treatment, and are rather injured by it, the resin subsiding along with the active dregs.

“We would advise the decoctions to be evaporated after they have been filtered boiling hot, without any further depuration; because some of the most active principles of vegetable substances, such as tannin, are much more soluble in boiling than in cold water, and because almost all of them are very quickly affected by exposure to the atmosphere. Therefore, if a boiling decoction, saturated with tannin, be allowed to cool, the greatest part of the very principle on which the activity of the substance depends will separate to the bottom, and according to the above directions, will be thrown away as sediment. The same objection applies more strongly to allowing the decoction to cool, and deposit fresh sediment, after it has been partially evaporated. Besides, by allowing the decoctions to stand several days before we proceed to their evaporation, we are in fact allowing the active principles contained in the decoction to be altered by the action of the air, and to be converted into substances, perhaps inactive, which also are thrown away as sediment.

“The evaporation is most conveniently performed in broad shallow vessels; the larger the surface of the liquor, the sooner will the aqueous parts exhale. This effect may likewise be promoted by agitation.

“When the matter begins to grow thick, great care is necessary to prevent its burning. This accident, almost unavoidable if the quantity be large, and the fire applied as usual under the evaporating basin, may be effectually prevented, by carrying on the inspissation, after the common manner, no further than to the consistence of a syrup, when the matter is to be poured into shallow tin or earthen pans, and placed in an oven, with its door open, moderately heated; which acting uniformly on every part of the liquid, will soon reduce it to any consistence required. This may likewise be done, and more securely, by setting the evaporating vessel in boiling water; but the evaporation is in this way very tedious.

“Alcohol is by far too expensive to be employed as a menstruum for obtaining extracts, except in those cases where water is totally inadequate to the purpose. These cases are,

“1. When the nature of the extract is very perishable when dissolved in water, so that it is liable to be decomposed before the evaporation can be completed, especially if we cannot proceed immediately to the evaporation.

“2. When water is totally incapable of dissolving the substance to be extracted, and

“3. When the substance extracted can bear the heat of boiling alcohol without being evaporated, but would be dissipated by that of boiling water; that is, when it requires a heat greater than  $176^{\circ}$ , and less than  $212^{\circ}$ , for its evaporation.

“In the last case, the alcohol must be perfectly free from water, because the heat necessary to evaporate it at the end of the process would frustrate the whole operation. Hence, also, the subject itself ought always to be dry; those substances which lose their virtue by drying, lose it equally on being submitted to this treatment with the purest alcohol.

“In this way the alcoholic extract of some aromatic substances,

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Principles of Pharmacy. substances, as cinnamon, lavender, rosemary, retain a considerable degree of their fine flavour.

"In the second case, the alcohol need not be so very strong, because it is still capable of dissolving resinous substances, although diluted with a considerable proportion of water.

"In the first case, the alcohol may be still much weaker, or rather, the addition of a small proportion of alcohol to water will be sufficient to retard or prevent the decomposition of the decoction.

"The alcohol employed in all these cases should be perfectly free from any unpleasant flavour, lest it be communicated to the extract.

"The inspissation should be performed, from the beginning, in the gentle heat of a water-bath. We need not suffer the alcohol to evaporate in the air; the greatest part of it may be recovered by collecting the vapour in common distilling vessels. If the distilled spirit be found to have brought over any flavour from the subject, it may be advantageously reserved for the same purposes again.

"When diluted alcohol is employed, the distillation should only be continued as long as alcohol comes over; and the evaporation should be finished in wide open vessels.

"Pure resins are prepared, by adding to spirituous tinctures of resinous vegetables, a large quantity of water. The resin, incapable of remaining dissolved in the watery liquor, separates and falls to the bottom; leaving in the menstruum such other principles of the plant as the spirit might have extracted at first along with it.

\* *Duncan's New Dispensatory*, chap. xxxiv. But this is only practised for the purpose of analysis\*." Of infusions and decoctions it is unnecessary for us to make any farther remarks, after what was observed in N<sup>o</sup> 200 and 201.

<sup>227</sup> Mucilages. Mucilages are solutions of the pure gums, or of similar substances, in water. They should not be made too thin, as they are then more readily decomposed on exposure to the air.

<sup>228</sup> Mixtures and emulsions. Mixtures are liquid preparations composed of substances that are not soluble in water, as various powders, barks, roots, &c. Emulsions differ from mixtures in being composed of oily or resinous ingredients, suspended in water by means of yolk of egg, honey, or mucilage. Both these preparations should be made as they are required, as few of them keep well.

<sup>229</sup> Syrups. Syrups are solutions of sugar, either in plain water, in the juice of some fruit, or in some vegetable infusion or decoction. They are employed chiefly to render mixtures or other liquid medicines more palatable, or to mix up powders and other solid ingredients into pills, electuaries, or troches. The proportion of sugar employed in the making of syrups should be so regulated as to preserve the syrup in the same state as when first made. If too little sugar has been employed, the syrup will suffer decomposition, and ferment; if too much, part of the sugar will separate in crystals, leaving the remainder too weak.

<sup>230</sup> Tinctures. Formerly the term tincture was employed to denote any transparent solution, whether in water or spirit, that was coloured. At present it is commonly applied to solutions made by digestion in alcohol, or in proof spirit, though it is frequently extended to solutions in ether,

or in ammoniated alcohol. For the action of alcohol as a menstruum, see CHEMISTRY. Principles of Pharmacy.

In making alcoholic tinctures, we must observe that the virtues of recent vegetable matters are very imperfectly extracted by spirituous menstrea. They must therefore be previously carefully dried, and as we cannot assist the solution by means of heat, we must facilitate it by reducing the solvent to a state of as minute mechanical division as possible. To prevent loss, the solution is commonly made in a close vessel, and the heat applied must be very gentle, lest it be broken by the expansion of vapour.

The action of tinctures on the living system is always compounded of the action of the menstruum, and of the matters dissolved in it. Now, these actions may either coincide with, or oppose each other; and as alcohol is at all times a powerful agent, it is evident that no substance should be exhibited in the form of a tincture, whose action is different from that of alcohol, unless it be capable of operating in so small a dose, that the quantity of alcohol taken along with it is inconsiderable.

Tinctures are not liable to spoil, as it is called, but they must nevertheless be kept in well closed phials, especially when they contain active ingredients, to prevent the evaporation of the menstruum.

They generally operate in doses so small, that they are rarely exhibited by themselves, but commonly combined with some vehicle. In choosing the latter, we must select some substance which does not decompose the tincture, or at least separate nothing from it in a palatable form.

The London college directs all tinctures, except that of muriate of iron, to be prepared in close phials.

The Dublin college explain, that when any other substances are to be digested, they mean it to be done with a low degree of heat; and when they are to be *maceraled*, it is to be done with a degree of heat between 60° and 90°.\*

Medicated wines and medicated vinegars differ from tinctures in nothing but the menstruum.

Of the external applications, the preparations of which are given in the Pharmacopœias, cataplasms or poultrices may be considered as extemporaneous, being never kept ready made. <sup>231</sup> Cataplasms.

Liniments, ointments, and cerates, are compositions of fatty matters, either animal or vegetable, or both, employed as external emollients. They differ only in consistence, liniments being very soft, or nearly fluid; ointments sufficiently hard not to melt in the ordinary temperature of the atmosphere; and cerates being of such a consistence as to be readily spread on cloth, &c. without the assistance of heat. These last commonly contain a considerable proportion of wax; whence their name. <sup>232</sup> Liniments, ointments, and cerates.

Plasters are more solid than cerates, and usually require the aid of heat to spread them on the proper substance for application, which is usually leather. Plasters sometimes contain powders in their composition, and in preparing these it is proper first to melt the fatty ingredients, and sprinkle in the powder when the melted matter is beginning to cool. <sup>233</sup> Plasters.



## PART IV. A BRIEF ACCOUNT OF THE ARTICLES OF THE MATERIA MEDICA, WITH THEIR OFFICINAL PREPARATIONS.

CHAP. I. *Animal Substances.*234  
Phosphorus.1. PHOSPHORUS, see CHEMISTRY *Index.*

SOME daring practitioners have lately ventured to recommend the *internal* use of this active inflammable in the advanced stage of typhus, in palsy and other cases of great debility. Taken into the stomach in a moderate quantity (below a grain) it produces heat in that organ, accelerates the pulse, promotes perspiration, and is said to give unusual vigour to the body. In larger quantity it produces inflammation of the stomach and bowels, followed by gangrene and death. Dose one-eighth to one-fourth of a grain in ether, or incorporated with mucilage.

The *internal* use of this substance appears to us to be more than *doubtful*; but we think we have experienced some benefit from it externally, when dissolved in oil, in paralytic and rheumatic cases.

2. MURIAS AMMONIÆ, E. SAL AMMONIACUS, L. D. Muriate of ammonia. *Sal ammoniac* (D).235  
Muriate of  
ammonia.

The purest muriate of ammonia of commerce is that prepared by sublimation, and which is formed of large convexo-concave cakes, firm and elastic, not easily broken, and difficult to be cut. It is of a yellowish white colour, of little smell, and of a very sharp saline taste.

It is found native in the neighbourhood of volcanoes; but is usually prepared for medical purposes either from the dung of animals that feed on salt marshes; or by decomposing sulphate of ammonia by muriate of soda, or by immediately combining ammonia with muriatic acid.

Internally it is sometimes given as a stimulant in typhus fevers in doses of 20 or 30 grains mixed with camphorated mixture; but it is principally employed externally in lotions and embrocations, either as a refrigerant to cool the surface in sprains and inflammations, or as a stimulant to disperse tumors or morbid accumulations of fluids, or to quicken the circulation, as in chilblains, &c.

*Officinal Preparations.*236  
Water of  
ammonia.

a. AQUA AMMONIÆ, E. AQUA AMMONIÆ PURÆ, L. LIQUOR ALKALI VOLATILIS CAUSTICUS, D. Water of ammonia. *Water of pure ammonia. Caustic solution of volatile alkali. Strong spirit of sal ammoniac.*

This is prepared by decomposing muriate of ammonia by means of quicklime with the addition of water, and afterwards distilling off the strongest portion with a gentle heat. The preparations of the different colleges vary a little, the Edinburgh Pharmacopœia ordering

one pound of muriate of ammonia to one pound and a half of quicklime; the London one pound to two pounds; and the Dublin 16 ounces to two pounds. No great quantity of water is necessary. The lime is first flaked with part of the water, and after it is cold, the salt and rest of the water are added, and the distillation carried on in well-closed vessels. The Edinburgh college directs Woolf's apparatus to be employed as a receiver, and orders all the separate liquors to be mixed together.

The *solution of ammonia* should be perfectly limpid and transparent, should have an extremely pungent odour, should not effervesce with acids, and should produce no precipitate on the addition of alcohol or lime water. It should be kept in small bottles well stoppt with ground stoppers, and should stand in a very cool place.

This preparation is a very powerful stimulant, irritating and inflaming the skin and nostrils, when applied externally or snuffed up the nose. Hence its use as a rubefacient in rheumatism, cynanche, paralysis, and as a general stimulus in syncope, hysteria, &c. It is scarcely used internally. See below.

b. ALCOHOL AMMONIATUM, E. SPIRITUS AMMONIÆ, L. SPIRITUS ALKALI VOLATILIS, D. Ammoniated alcohol. *Spirit of ammonia. Spirit of volatile alkali.*

237  
Ammoniat-  
ed alcohol.

This as prepared by the Edinburgh Pharmacopœia is merely a solution of ammonia in alcohol, and is prepared by decomposing eight ounces of muriate of ammonia by 12 ounces of quicklime, with the addition of eight ounces of water and 32 ounces of alcohol, and distilling off the alcohol. The preparation of the London and Dublin colleges is made by mixing four ounces of muriate with six ounces of potashes and three pints of alcohol. The latter therefore contains much *carbonate of ammonia*, and is not so strong as the former.

c. CARBONAS AMMONIÆ, E. AMMONIA PREPARATA, L. ALKALI VOLATILE MITE, D. Carbonate of ammonia. *Prepared ammonia. Mild volatile alkali.*

238  
Carbonate  
of ammo-

This is prepared by mixing together one pound of muriate of ammonia, and twelve pounds of pure carbonate of lime or chalk, after being reduced to powder separately, and afterwards subliming.

This preparation, as it occurs in the shops, is composed of irregular masses of a very white, nearly opaque salt, of a strong pungent odour, and sharp alkaline taste. It requires to be kept closely stoppt from the air, by the action of which it crumbles into powder, and its volatile part is dissipated. When pure, it should be entirely volatilizable by heat, but if any thing remains

(D) The letters E. L. D. affixed to the articles in this part denote that they are articles of the Edinburgh, London, or Dublin Pharmacopœias.



History of Simple and Official Medicines. mains, there is reason to suppose that carbonate of potash or of lime is mixed with it; and those impurities are most likely to be present if it is purchased in the form of a powder.

Carbonate of ammonia in its medical properties resembles the solution of ammonia, but it is not so strong. It is chiefly employed for smelling bottles, which are used in cases of hysteria or syncope, and is often formed into a neutral salt with the juice of lemons, (*citrate of ammonia*) and given as a gentle diaphoretic. It is sometimes given alone, or mixed with aromatics, in the form of a bolus, as a diaphoretic or stimulant. Dose five to ten grains.

<sup>239</sup>  
Water of Carbonate of ammonia.

d. AQUA CARBONATIS AMMONIÆ, E. AQUA AMMONIÆ, L. LIQUOR ALKALI VOLATILIS MITIS, D. Water of carbonate of ammonia. *Liquor of mild volatile alkali.*

This is merely a solution of carbonate of ammonia in water, and might be properly prepared by dissolving a certain proportion of that salt in distilled water. The colleges of Edinburgh and Dublin direct it to be made by mixing together 16 ounces of muriate of ammonia, and the same quantity of carbonate of potash, pouring upon them two pounds of water, and distilling to dryness. In the London Pharmacopœia, the proportions are one pound of the muriate, a pound and a half of potashes, and four pints of water, drawing off two pints by distillation with a slow fire.

This solution should be transparent and colourless; should produce a strong coagulum on the addition of alcohol, and should effervesce with acids.

It is often employed in medicine, both internally and externally. Internally it is given, first as an emetic, in a dose of from 1 to 2 drams: secondly, as a diaphoretic; dose about 50 drops: thirdly, as a stimulant, 20 drops to a dram: fourthly as an antispasmodic, in a similar dose: fifthly, as an antacid; and sixthly, as an anthelmintic combined with oil into an emulsion.

<sup>240</sup>  
Water of acetate of ammonia.

e. AQUA ACETITIS AMMONIÆ, E. AQUA AMMONIÆ ACETATÆ, L. LIQUOR ALKALI VOLATILIS ACETATI, D. SPIRITUS MINDERERI. Water of acetite of ammonia. *Water of acated ammonia. Liquor of acated volatile alkali. Mindererus's spirit.*

This is a secondary salt, formed by neutralizing carbonate of ammonia with distilled acetic acid.

It forms a tolerably transparent solution, commonly of a greenish cast, of little smell, and of a weak saline taste. It should shew no signs of effervescence on the addition of either acetic acid or carbonate of ammonia.

This medicine acts as a gentle diaphoretic, of considerable use in low fevers, and several inflammatory complaints. It may be given in a dose of 3—6 drams, in the form of a draught or julep. It should be assisted by warm clothing, and warm diluent liquors.

<sup>241</sup>  
Hydro-sulphuret of ammonia.

f. HYDROSULPHURETUM AMMONIÆ, E. Hydro-sulphuret of ammonia.

This preparation has been newly introduced into medical practice, by the Edinburgh college, who direct it to be prepared by subjecting 4 ounces of water of ammonia to a stream of gas arising from a mixture of 4

ounces of sulphuret of iron, and 8 ounces of muriatic acid, previously diluted with 2½ pounds of water.

This preparation forms a solution of a dark green colour and very fetid odour. It should more properly be called sulphureted hydrogenet of ammonia. It acts powerfully on the living system. It induces vertigo, drowsiness, nausea, and vomiting, and lessens the action of the heart and arteries. It therefore seems to be a direct sedative. According to the doctrine of the chemical physiologists, it is a powerful disoxygenizing remedy. It has only been used in diabetes by Dr Rollo and others, under the name of hepatized ammonia, in doses of five or ten drops twice or thrice a day\*.

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\* Duncan's Dispensatory.

g. OLEUM AMMONIATUM, E. LINIMENTUM AMMONIÆ, L. D. LINIMENTUM VOLATILE. Ammoniated oil. *Liniment of ammonia. Volatile liniment.*

<sup>242</sup>  
Ammoniated oil.

Ammoniated oil is properly a soap, formed by combining a solution of ammonia, or of carbonate of ammonia, with olive oil. The Edinburgh college directs it to be prepared by mixing together two ounces of olive oil and two drams of water of ammonia. The London college has two preparations of this kind; a stronger, formed of one ounce of water of pure ammonia, mixed with two ounces of olive oil; and a weaker, of half an ounce of water of ammonia and one ounce and a half of oil.

This preparation is seldom kept ready made, as by standing it becomes thick, and is diminished in strength. It is of a light yellow colour.

Ammoniated oil is a useful external application in cases of cyanche and rheumatism, being either rubbed on the affected part, or applied to it spread on flannel, and changed occasionally.

h. ALCOHOL AMMONIATUM AROMATICUM, E. SPIRITUS AMMONIÆ COMPOSITUS, L. SPIRITUS ALKALI VOLATILIS AROMATICUS, D. Aromatic ammoniated alcohol. *Compound spirit of ammonia. Aromatic spirit of volatile alkali. Sal volatile.*

<sup>243</sup>  
Aromatic ammoniated alcohol.

This is a composition of *ammoniated alcohol* with various aromatic oils. In the Edinburgh Pharmacopœia it is prepared by dissolving one dram and a half of oil of rosemary, and one dram of oil of lemon peel, in eight ounces of ammoniated alcohol: by the London college we are directed to prepare it of two pints of spirit of ammonia, and two drams of oil of lemon, and of oil of cloves; and by that of Dublin, of two pounds of spirit, and of oil of lemon and oil of nutmeg, each two drams.

It is of a light amber colour, and of a very fragrant smell. It is more palatable and less acrimonious than the other preparations of ammonia, and is well suited to spasmodic complaints, faintness, and weakness of the stomach. Dose from twenty drops to a dram.

i. LINIMENTUM VOLATILE, D. Volatile Liniment of the Dublin college.

<sup>244</sup>  
Volatile Liniment.

A compound of one part of the above preparation and two parts of the Dublin soap liniment, of which hereafter. A stimulating external application.

k. SPIRITUS AMMONIÆ SUCCINATUS, L. Succinated spirit of ammonia.

<sup>245</sup>  
Succinated spirit of ammonia.

This.



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Official  
Medicines.

This is prepared by dissolving a scruple of rectified oil of amber, and ten grains of soap in an ounce weight of alcohol, and then adding four measured ounces of water of pure ammonia.

It is at first of a milky colour, but gradually becomes more or less transparent by standing. It is considered as much the same with the French *cau de luce*.

It is an useful antispasmodic, whether snuffed up the nose or rubbed on the temples.

246  
Fetid am-  
moniated  
alcohol.

7. ALCOHOL AMMONIATUM FOETIDUM, E. SPIRITUS AMMONIÆ FOETIDUS, L. SPIRITUS ALKALI VOLATILIS FOETIDUS, D. Fetid ammoniated alcohol. *Fetid spirit of volatile alkali.*

A solution of asafœtida in spirit of ammonia, which is prepared according to the Edinburgh college by digesting half an ounce of asafœtida in eight ounces of spirit of ammonia for 12 hours, and distilling off the spirit. The London college directs six pints of proof spirits, a pound of sal ammoniac, four ounces of asafœtida, and a pound and half of potash, to be mixed together, and five pints to be distilled off with a slow fire.

An excellent antispasmodic, particularly suited to hysterical cases. Dose from 30 drops to a dram.

*Particular Animal Substances.*

CLASS MAMMALIA. Order GLIRES.

3. CASTOR FIBER, E. The Beaver. CASTOREUM, L. D. *Castor.*

247  
Castor.

This is a substance secreted in a follicle situated near the anus of the beaver, perhaps the inguinal gland. It is of a dark brown colour, friable, of a pungent bitter taste, and a very strong unpleasant smell. It is contained in a roundish or flattened membranous bag. Bouillon la Grange has found by analysis, that it consists of mucilage, bitter extract, resin, a peculiar volatile oil, and a flaky crystalline substance resembling *adipo-oire*. Its volatile parts come over by distillation with water, and great part of the substance is soluble in alcohol.

The best castor comes from Russia, but a great deal is brought from Canada. The Russian castor is in larger, rounder bags, and is of a much stronger smell than the Canadian.

Castor is one of our most established antispasmodics, and was much esteemed and extolled by Dr Cullen. It is chiefly prescribed in hysteria, but seldom alone or in substance. Dose from 10 to 30 grains in a bolus.

*Official Preparations.*

a. TINCTURA CASTOREI. Tincture of Castor.

248  
Tincture of  
castor.

The London and Dublin colleges direct two ounces of powdered Russian castor to be digested ten or seven days in two pints (London), or two pounds (Dublin), of proof spirit. According to the Edinburgh formula, an ounce and half of Russian castor is to be digested for seven days in a pound of alcohol, and the tincture strained through paper.

This tincture is of a dark brown colour, and possesses all the valuable properties of the simple drug. Dose

from 30 drops to a dram. It is sometimes used as an external application in ear-ach; equal parts of this and tincture of opium being dropped into the ear.

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Official  
Medicines.

b. TINCTURA CASTOREI COMPOSITA, E. Compound tincture of castor.

249  
Compound  
tincture of  
castor.

This is prepared by digesting an ounce of powdered Russian castor, and half an ounce of asafœtida, in a pound of ammoniated alcohol for seven days, filtering the liquor through paper.

A more powerful antispasmodic than the former; dose from 20 to 40 drops.

4. MOSCHUS MOSCHIFERUS, E. The musk animal. MOSCHUS, L. D. Musk.

250  
Musk.

Musk is a resinous matter secreted in a receptacle situated near the navel of the musk animal. See MAMMALIA *Index.*

This substance is, when dry, of a reddish brown or rusty black colour, somewhat unctuous, and of a more or less granulated appearance: it has a bitterish and rather acrid taste; a fragrant smell, agreeable at a distance, but so strong as to be highly unpleasant when smelt near to. So violent indeed is the smell of musk, when fresh taken from the animal, or from quantities put up by the merchants for sale, that it has been known to force the blood from the nose, eyes, and ears, of those who have imprudently inhaled its vapours; and we are assured by Chardin, that whenever he engaged in the purchase of musk, he found it always necessary to cover his face with several folds of a handkerchief, in order to be sufficiently secure against the sudden effects of the smell.

As musk is an expensive drug, it is frequently adulterated by various substances; and we are assured that pieces of lead have been found in some of the receptacles, inserted in order to increase the weight. The most usual mode of adulterating it is by taking the musk from the bag, and mixing it with dried blood coarsely powdered. This may in general be detected by observing that the bag has been opened; by the fetid smell which the substance emits when heated, and by the smell of ammoniacal gas which is perceived when the adulterated musk is rubbed with potash.

This substance is particularly efficacious, and there is scarcely any substitute for it in particular cases. When properly administered it sometimes succeeds in the most desperate cases. It raises the pulse without producing much heat; it removes spasmodic affections, and is found to have considerable effect on the nervous system, increasing the powers of thought, sensation, and voluntary motion.

It may be employed in all cases of typhus fevers; in particular, where there is much delirium, subfultus tendinum, &c. It is also employed in febrile eruptions, and in many spasmodic diseases, as the chincough, epilepsy, tetanus, &c.

*Official Preparations.*

a. TINCTURA MOSCHÆ, D. Tincture of musk.

251  
Tincture of  
musk.

This is prepared by macerating two drams of musk in a pound of rectified spirit of wine for seven days, and straining the liquor.

The tincture of musk may be given in doses of a dram



History of Simple and Official Medicines. dram or two. It is best mixed with honey or syrup, as the addition of water renders it turbid.

*b.* MISTURA MOSCHATA, L. Musk mixture.

<sup>252</sup> Musk mixture. This is directed by the London college to be made by rubbing two scruples of musk, first with one dram of double refined sugar, then with the addition of the same quantity of powdered gum arabic, and six ounces of rose water, added by degrees.

The musk must be well rubbed with the sugar and gum, before the rose water be added, otherwise a separation will take place. It is best to make this preparation only when required, as it does not keep well.

Musk mixture is given in most of the cases in which the simple drug is indicated. Dose, an ounce or an ounce and a half.

<sup>253</sup> Hartshorn. *5.* CERVUS ELAPHUS, E. the Stag. CORNU CERVINUM, L. D. Hartshorn.

The horn of the stag differs little from bone, except in containing more cartilage. It was formerly employed in the preparation of ammonia, whence that alkali was denominated *hartshorn*, and at present there are two or three modifications of ammonia that are directed to be prepared from this substance. It is also burnt to form pure phosphate of lime.

*Official Preparations.*

<sup>254</sup> Phosphate of lime. *a.* PHOSPHAS CALCIS, E. CORNU CERVI, VEL CERVINUM USTUM, L. D. Phosphate of lime. Burnt hartshorn.

The Edinburgh college directs this to be prepared by burning pieces of hartshorn till they become perfectly white, and then reducing them to a fine powder.

Burnt hartshorn was formerly given as an antacid; but its efficacy in that way appears to be trifling, as the phosphoric acid is not easily separated from the lime, and of course the latter will not neutralise the acid morbidly secreted in the alimentary canal. Of late pure phosphate of lime has been recommended as a remedy for rickets, with the view of supplying solid matter to the bones. Dose about ten grains.

<sup>255</sup> Volatile liquor of hartshorn. *b.* LIQUOR VOLATILIS CORNU CERVI, L. D. Volatile liquor of hartshorn. *Spirit of hartshorn.*

*c.* SAL CORNU CERVI, L. D. *Salt of hartshorn.*

<sup>256</sup> Salt of hartshorn. *d.* OLEUM CORNU CERVI, L. D. *Oil of hartshorn.*

<sup>257</sup> Oil of hartshorn. These are all made from one chemical operation. A quantity of hartshorn is put into a retort, and submitted to a heat that is gradually increased. First the volatile liquor comes over, then the salt, and lastly the oil. After the salt and oil are separated from the liquor, this is distilled again two or three times with a moderate heat, by which it is rendered more pure.

The salt is purified by mixing it with an equal weight of prepared chalk, and then subliming.

The volatile liquor and salt of hartshorn differ little from the water of carbonate of ammonia, and the solid

carbonate, except in containing a quantity of empyreumatic oil. They are in fact less pure than the above mentioned preparations of ammonia, and might be entirely set aside. They are chiefly used to smell to in cases of fainting or hysteria.

These preparations may be made from the bones or horns of any animal, where hartshorn cannot be conveniently procured.

<sup>258</sup> Animal oil. *e.* OLEUM ANIMALE, L. OLEUM CORNU CERVINI RECTIFICATUM, D. Animal oil. Rectified oil of hartshorn. *Dippel's oil.*

This is made by distilling the oil of hartshorn that rises in the preceding operation, twice or three times, either by itself, or with the addition of water.

Animal oil was formerly much employed as a powerful antispasmodic. Dose 15—30 drops. When given six hours before the accession of a paroxysm of an intermitting fever, on an empty stomach, it is said to have kept off the paroxysm.

<sup>259</sup> Mutton suet. *6.* OVIS ARIES, E. the Sheep. SEVUM OVILUM, L. D. Mutton suet.

Mutton suet is employed in the preparation of several ointments and cerates, which will be mentioned hereafter.

Order 6. BELLUÆ.

<sup>260</sup> Hogs lard. *7.* SUS SCROFA, E. the Hog. ADEPS SUILLUS, L. D. Hogs lard.

Used also in the preparation of liniments, ointments, &c. and sometimes employed alone as an external emollient.

Order 7. CETÆ.

<sup>261</sup> Spermaceti. *8.* PHYSETER MACROCEPHALUS, E. Spermaceti Whale. *Sperma Ceti*, L. D.

This is a white flakey substance, that is found in certain cells in the head of the spermaceti whale. See CETOLOGY, N<sup>o</sup> 66, and CHEMISTRY, N<sup>o</sup> 2860.

As an emollient, spermaceti is employed both internally and externally. Internally it is given in the form of emulsion mixed with mucilage or yolk of egg, or mixed with syrup into a linctus, in cases of catarrh, *ardor urinae*, &c. As an external application, it enters into the composition of the following

*Official Preparations.*

<sup>262</sup> Ointment of spermaceti. *a.* UNGUENTUM SPERMATIS CETI, L. D. Spermaceti ointment.

This ointment is prepared by melting together six drams of spermaceti, two drams of white wax, and three ounces of olive oil, over a slow fire, stirring them constantly till they are cold.

<sup>263</sup> Spermaceti cerate. *b.* CERATUM SPERMATIS CETI, L. D. CERATUM SIMPLEX, E. Spermaceti cerate. *Simple Cerate. White Cerate.*

In the preparations of this cerate, the proportions of the Edinburgh pharmacopœia differ from those directed by the colleges of London and Dublin. The former orders six parts of olive oil, three of white wax, and one of spermaceti; the two latter, half an ounce of spermaceti, two ounces of white wax, and four ounces



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of oil. They are made in a similar manner with the ointment.

These preparations are used principally for dressing ulcers, or to form more compounded ointments or cerates.

264  
Goose-  
grease.

CLASS II. BIRDS. Order 2. ANSERES.

9. ANAS ANSER, the goose. ADEPS ANSERINUS, D. Goose grease.

This fat is now rarely used in medicine, as it seems to possess no superior properties to hog's lard, which is more conveniently procured.

265  
Egg.

Order GALLINÆ.

10. PHASIANUS GALLUS, the domestic fowl. OVUM EJUSQUE PUTAMEN. *Egg, and egg-shells.*

The yolk of egg is employed in pharmacy for rendering oils and resins miscible with water. For this purpose it is scarcely preferable to common vegetable mucilage, and has the disadvantage of sooner becoming putrid, and the white is used in making *alum cataplasm*. Egg-shells prepared, i. e. levigated, are sometimes employed as an antacid, but they do not seem better in that respect than common carbonate of lime, or magnesia.

266  
Isinglass.

CLASS IV. FISHES. Order 6. CHONDROPTERYGII.

11. ACCIPENSER HUSO, E. Isinglass fish. ICHTHYOCOLLA, L. D. *Isinglass*. See the article ICHTHYOCOLLA.

Employed as an emollient, and said to be the principal substance used in making *court plaster*.

267  
Cantharides

CLASS V. INSECTS. Order 1. COLEOPTERA.

12. LYTTA VESICATORIA. MELOE VESICATORII, E. CANTHARIS, L. D. Cantharides. *Spanish flies.*

For the natural history of this insect, see ENTOMOLOGY, p. 169; and for its chemical analysis, see CHEMISTRY, N<sup>o</sup> 2875.

Cantharides are stimulant and virulent to so great a degree, that their internal exhibition requires to be conducted with the utmost caution, otherwise inflammation in the stomach, intestines, or urinary passages, may be the consequence. When taken in considerable quantity, they produce inflammation and ulceration of the stomach and bowels, attended with mucous or purulent stools, fetid breath, violent pains in the belly; and these symptoms, if not timely relieved, are followed by faintness, giddiness, and death. Applied externally, they inflame and excoriate the skin, and if continued for a sufficient time, produce a large vesication filled with acrid serum. Their external application is not unfrequently followed by distressing strangury.

Internally they have been exhibited as a diuretic in dropical cases, in a dose from half a grain to a grain. They are frequently employed in weakness of the urinary organs: in incontinence of urine, proceeding from paralytic vesicæ, in gleet, fluor albus, diabetes, and other diseases of the urinary passages, originating in, or connected with debility. Not only in the incontinence of urine which accompanies a palsy of the lower extre-

mities, but also in that which is occasioned by an over-distension of the bladder, these flies have been administered internally with evident relief. The same beneficial effects have followed their use in ichuria vesicalis, or suppression of urine from over-distension of the bladder. They are recommended as an excellent remedy in gleet by *Mead and Worrhof*, and the last mentioned physician prescribed them in cases of hydrophobia.

The internal use of cantharides in gleet and leucorrhœa has of late been much extended by Dr John Robertson; but for an account of the circumstances which led him to such a free use of this medicine, and for his mode of exhibiting it, we must refer to his late work on the subject, and a paper published by him in the second volume of the Edinburgh Medical Journal.

When these stimulants are administered internally, they are prescribed either in powder or in tincture. The dose in substance (which is the most certain form of internal exhibition) is from half a grain to one or two grains every sixth hour, made into pills. Of the tincture, the dose is from 10 to thirty drops. During the use of either, the patient should be directed to drink of mucilaginous decoctions, emulsions, &c. Camphor is thought by some practitioners to moderate the too stimulating action of cantharides, and is accordingly combined with them or their tinctures whenever they are given internally. Others join nitre with them, as well as camphor.

Of the external use of cantharides by way of blister we shall speak presently under the preparations that are employed for that purpose.

*Official Preparations.*

a. TINCTURA MELOES VESICATORII, E. TINCTURA CANTHARIDIS, L. T. CANTHARIDUM, <sup>268</sup> Tincture of cantharides. D. Tincture of cantharides.

The Edinburgh tincture is directed to be made, by digesting for seven days, a dram of powdered cantharides in a pound of diluted alcohol; and that of the Dublin college is prepared with the same proportions. The London tincture is made by digesting two drams of bruised cantharides, and half a pound of powdered cochineal, in a pint and a half of proof spirit for eight days.

These tinctures differ a little in point of strength. When given internally, the dose of the Edinburgh or Dublin tincture may be from 20 to 30 drops; that of the London tincture from 10 to 20 drops. They are employed externally as a *rubefacient* in cases of palsy, angina, gastritis, &c.

b. CERATUM CANTHARIDIS, L. D. <sup>269</sup> Cerate of cantharides.

This cerate is prepared by mixing a dram, or four scruples, of powdered cantharides, with six drams, or an ounce, of spermaceti cerate.

It is chiefly employed to promote the running of issues.

c. EMPLASTRUM MELOES VESICATORII, E. EMPLASTRUM CANTHARIDIS, L. EMP. CANTHARIDUM, D. <sup>270</sup> Plaster of cantharides. *Blistering plaster.*

According to the Edinburgh college, this plaster is to

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to be prepared by first melting together equal weights of mutton suet, yellow wax, and white rosin; and when these are removed from the fire, sprinkling in an equal proportion of powdered cantharides. The proportions of the London and Dublin colleges are 1 pound of finely powdered cantharides, 2 pounds of wax plaster, and half a pound of hog's lard, and the ingredients are mixed in a similar manner.

271  
Compound  
plaster of  
cantharides.

*d.* EMPLASTRUM MELOES VESICATORII COMPOSITUM, E. Compound plaster of cantharides.

This is made of Burgundy pitch, Venice turpentine, cantharides; each 12 parts, yellow wax, 4 parts; subacetate of copper, 2 parts; mustard seed and black pepper, each 1 part. Having first melted the pitch and wax, the turpentine is to be added, and while these ingredients are still fluid, the other articles in fine powder are to be mixed with them, and the whole constantly stirred till cold.

This last-mentioned plaster of Spanish flies is too compound, and being of a corrosive quality, is rarely prescribed. The other more simple forms of cantharides plaster are in frequent use for exciting vesications in various acute and chronic diseases, particularly in internal inflammations and pains, as well as in many spasmodic affections. Blistering has been recommended by some physicians in the advanced and sinking stage of typhus fever; but the propriety of such a practice is extremely questionable. We would further remark, that in the febrile disorders of children, a good deal of caution is requisite in the application of blisters; a spreading erythematous inflammation, and even gangrene, being sometimes the consequence. In some of the above-mentioned disorders much benefit is obtained by keeping the blistered part open, or in an ulcerated state for a considerable length of time. This is done by any of the following ointments.

272  
Ointment  
of cantharides.

*e.* UNGUENTUM CANTHARIDIS, L. UNG. CANTHARIDUM, D. Ointment of cantharides.

This is prepared by taking pulverized Spanish flies, two ounces; distilled water, eight ounces; ointment of yellow resin, eight ounces. The Spanish flies being boiled in the water, this is reduced to half the original quantity, the liquor is strained, and the ointment of yellow resin added. The mixture is then placed in a water bath, saturated with sea salt, and evaporated to the consistence of an ointment.

273  
Ointment  
of infusion  
of cantharides.

*f.* UNGUENTUM INFUSI MELOES VESICATORII, E. Ointment of infusion of cantharides.

To prepare this ointment, the Edinburgh college directs one part of cantharides to be macerated for a night in four parts of boiling water; the express and strained liquor to be boiled with two parts of hogs lard till the water is evaporated, then one part of yellow wax, and the same proportion of white rosin to be added; and when the whole is melted, and removed from the fire, two parts of Venice turpentine are to be mixed with it, and the whole stirred till cold.

274  
Ointment  
of cantharides  
powder.

*g.* UNGUENTUM PULVERIS MELOES VESICATORII, E. Ointment of cantharides powder.

This is prepared by mixing together seven parts of

resinous ointment, and one part of powdered cantharides.

All these ointments, besides being used for keeping open blisters, are occasionally employed for issue ointments.

For more on the subject of blisters, the reader is referred to Percival's Essays, vol. i. and Withers on the use and abuse of Medicines.

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#### Order 2. HEMIPTERA.

13. COCCUS CACTI, E. COCCINELLA, L. D. <sup>275</sup> <sup>Cochineal.</sup> <sup>Cochineal.</sup> See ENTOMOLOGY Index.

This is employed in medicine merely as a colouring-matter.

#### Order 5. HYMENOPTERA.

APIS MELLIFICA. The bee.

14. MEL. <sup>276</sup> <sup>Honey.</sup> <sup>Honey.</sup> Honey.

Besides being used as an article of diet, honey is often employed medicinally, either for the preparation of electuaries, or for making a kind of syrups, called *oxymels* or *medicated honeys*. It generally proves gently laxative, but is apt to disagree with the stomach, producing sickness and griping. It might probably be entirely superseded by sugar, which is not attended with those unpleasent effects.

#### Official Preparations.

*a.* MEL DESPUMATUM. Clarified honey.

<sup>277</sup> <sup>Clarified</sup> <sup>honey.</sup>

For the purpose of clarifying honey, the colleges of London and Dublin direct that it should be melted in a water bath, removing the scum as it rises.

In this way the honey is rendered more beautiful to the eye, but is scarcely less liable to disagree with weak stomachs.

*b.* MEL ACETATUM, L. OXYMEL SIMPLEX. <sup>278</sup> <sup>Acetated</sup> <sup>honey.</sup> Acetated honey. *Simple oxymel.*

Two pounds of clarified honey are boiled in a glass vessel over a gentle fire, with one pound of distilled vinegar, till they are reduced to the consistence of a syrup.

This is a useful remedy diluted with water and employed as a gargle, in coughs and sore throats.

#### Order 7. APTEA.

15. ONISCUS ASELLUS, E. MILLEPEDA, L. <sup>279</sup> <sup>Millepedes.</sup> <sup>Millepedes.</sup> D. Millepedes or *Woodlice*.

Formerly employed as a diuretic in the form of pills, that were made either of the living animals, or of these killed by spirit of wine and powdered.

16. CANCER ASTACUS, E. The craw-fish. <sup>280</sup> <sup>Crabs eyes.</sup> <sup>Crabs eyes.</sup> *Cancrorum lapilli. Crab's eyes.* See CHEMISTRY, N<sup>o</sup> 2882.

#### Official Preparation.

*a.* CANCROCORUM LAPILLI PRÆPARATI, E. Prepared <sup>281</sup> <sup>Prepared</sup> <sup>crabs eyes.</sup> <sup>crabs eyes.</sup>

5 A 2

Formerly



History of Simple and Official Medicines. Formerly much employed as an antacid, though not at all superior to common carbonate of lime.

17. CANCER PAGURUS, E. The black-clawed crab. CHELÆ CANCRORUM, L. *Crabs claws.*

282  
Crabs claws.

*Official Preparations.*

283  
Prepared a. CHELÆ CANCRORUM PRÆPARATÆ, L. Prepared crabs claws. crabs claws.

Reduced to powder like the former, by levigation, diffusion, filtration, and drying. Of similar properties.

284  
Compound powder of crabs claws.

b. PULVIS CHELARUM CANCRI COMPOSITUS, L. Compound powder of crabs claws.

A mixture of one pound of prepared crabs claws, with three ounces of prepared chalk, and the same proportion of prepared red coral.

CLASS VI. WORMS. Order 2. MOLLUSCA.

285  
Leeches.

18. HIRUDO MEDICINALIS. Medicinal leech. See HELMINTHOLOGY *Index.*

Order 3. TESTACEA.

286  
Oyster shells.

19. OSTREA EDULIS, E. OSTREA, L. D. Oyster. See CONCHOLOGY *Index.* TESTÆ OSTREARUM. *Oyster shells.* See CHEMISTRY, N° 2883.

*Official Preparation.*

287  
Prepared oyster shells.

a. OSTREARUM TESTÆ PRÆPARATÆ, L. Prepared oyster shells.

Prepared in the same way as crabs claws, possessing similar properties.

Order 4. ZOOPHYTA.

288  
Red coral.

20. GORCONIA NOBILIS. ISIS NOBILIS, E. CORALLIUM RUBRUM, L. D. Red coral. See CHEMISTRY, N° 2886.

*Official Preparation.*

289  
Prepared red coral.

a. CORALLIUM RUBRUM PRÆPARATUM. Prepared red coral.

As above.

290  
Sponge.

21. SPONGIA OFFICINALIS, E. SPONGIA, L. D. Sponge. See HELMINTHOLOGY *Index.*

In its natural state, sponge is employed by surgeons, for cleansing wounds and ulcers, for making tents, and for stopping hemorrhagies from small divided blood vessels.

*Official Preparation.*

291  
Burnt sponge.

a. SPONGIA USTA, L. D. Burnt sponge.

Sponge is burnt in a close iron vessel, after being cut into small pieces and bruised to free it from earthy and stony matter. The burning is continued till the sponge becomes black and friable, and it is then reduced to a fine powder.

Burnt sponge has been long employed as a remedy in scrophulous affections. It seems to owe its beneficial operation (mostly slight and uncertain) in these disorders, partly to its alkaline and partly to its carbonaceous nature. Perhaps the first-mentioned may contribute to the solution and diffusion (in the human body) of its coaly matter. It is given (made into a bolus, or lozenge) in doses of a scruple, or half a dram, twice a day.

It is likewise said to be a remedy for the bronchocele, in which cases it has been administered with success in the following manner. The stomach and bowels having been duly cleansed by a vomit and purge taken two days before, the patient, on going to bed, is to place a bolus consisting of half a dram of burnt sponge, and as much honey as is necessary, in the mouth, under the tongue, and as it gradually dissolves to swallow it. This bolus is to be repeated for six nights. A bitter powder made of five grains of chamomile flowers, gentian root, and the lesser centaury tops, is to be taken every seventh day during the use of the bolus, and on the eighth day the purge is to be repeated. Others have employed sponge in these cases in the form of a lozenge, which is certainly more conveniently held in the mouth than a bolus\*.

\*Theaurus Medicaminum.

CHAP. II. Vegetable Substances.

SECT. I. *Vegetable products that are procured from plants in general, or from such as are imperfectly known.*

22. CARBO LIGNI, E. Charcoal. See CHEMISTRY *Index.* <sup>292</sup> Charcoal.

For medical purposes charcoal should be fresh burned, or should be kept carefully excluded from the air. Its chief use is as an antiseptic, correcting putridity; hence it is employed as a tooth-powder, either alone or mixed with astringents and aromatics, and is sometimes given internally in diarrhoea and dysentery, where the matters evacuated are very offensive. It is also said to act as a gentle laxative.

23. FULIGO LIGNI COMBUSTI. Wood foot. <sup>293</sup> Wood foot.

This differs from charcoal in containing a considerable quantity of empyreumatic oil, to which the properties attributed to it as an antispasmodic are to be ascribed. It is now seldom used.

24. ALCOHOL, E. SPIRITUS VINOSUS RECTIFICATUS, L. SPIRITUS VINI RECTIFICATUS, D. Alcohol. *Rectified spirit of wine.* <sup>294</sup> Common alcohol.

For the usual preparation, history and chemical properties of alcohol, see CHEMISTRY, Chap. xi. sect. i.

The only certain mode of ascertaining the purity of alcohol and its preparations is by taking their specific gravity, for the manner of doing which see HYDRODYNAMICS. The specific gravity of rectified spirit should be 835.

Alcohol is one of the most violent stimuli with which we are acquainted. Applied externally it corrugates the solid parts of the body, and coagulates all the albuminous and gelatinous fluids with which it comes in contact. By violently contracting the smaller vessels, it checks



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checks passive hemorrhages, and by destroying the sensibility of the extremities of nerves it alleviates pain, and in some cases removes spasm. Taken undiluted into the stomach, it acts in a similar manner, contracting the solids, and destroying nervous sensibility. If the quantity is considerable, it brings on apoplexy and palsy, followed by death. Sufficiently diluted alcohol acts as a tonic and gentle stimulus, exhilarating the spirits, increasing the appetite, and promoting digestion; but a too frequent use of ardent spirits is attended with dangerous consequences. See N° 102. It is a useful application to recent burns and scalds, preventing vesication.

It must be remarked, that what the Edinburgh college have called alcohol is not pure alcohol.

*Official Preparations.*

a. ALCOHOL, L. D. Alcohol.

295  
Pure alcohol.

The process for obtaining pure alcohol given by the London college is somewhat different from that of the Dublin college. The former directs a gallon of rectified spirit of wine to be mixed with an ounce of pure kali, and afterwards a pound of hot prepared kali to be added. The mixture is to be well shaken and set by for 24 hours, when the spirit is to be poured off, mixed with half a pound more prepared kali, and distilled in a water bath. The distilled alcohol should have the specific gravity of 815.

The process of the Dublin pharmacopœia is as follows. Five pounds of rectified spirit are mixed with one ounce of caustic vegetable alkali, and then with one pound of pearl-ashes dried over the fire and still warm. This mixture is digested for three days, shaking it frequently; and then the spirit is poured off, and distilled till three pounds have come over. The Dublin alcohol has the specific gravity of 820, and is consequently weaker than that of the London pharmacopœia.

Pure alcohol is not employed in medicine, and therefore the college of Edinburgh have given no formula for its preparation.

b. LIQUOR ÆTHEREUS VITRIOLICUS, D. Vitriolic ethereal liquor.

296  
Vitriolic ethereal liquor.

This is prepared by putting 32 ounces of rectified spirit of wine into a retort that is capable of supporting a sudden heat, and pouring on it in a continued stream 32 ounces of sulphuric acid, mixing them gradually; then placing the retort in heated sand, and distilling off 16 ounces into a cool receiver, taking care so to regulate the heat that the mixture may boil as soon as possible. The specific gravity should be about 753.

In a similar manner is prepared the

SPIRITUS ÆTHERIS VITRIOLICI, L. Spirit of vitriolic ether.

297  
Spirit of vitriolic ether.

This preparation is an impure ether, and, when purified, as directed below, it forms the officinal *sulphuric ether*.

It is employed as a stimulant in low fevers and febrile eruptions. Dose from 60 to 100 drops.

c. ÆTHER SULPHURICUS, E. ÆTHER VITRIOLICUS, L. D. Sulphuric ether. *Vitriolic ether*.

298  
Sulphuric ether.

The colleges of London and Dublin direct their sulphuric ether to be prepared by rectifying the former preparation by means of potash. According to the former, two pounds of spirit of vitriolic ether are to be mixed with one measured ounce of water of pure kali, and the mixture distilled with a gentle heat, till 14 measured ounces have come over. In the Dublin formula 16 ounces of vitriolic ethereal liquor are mixed with two drams of powdered caustic vegetable alkali; and 10 ounces are distilled off.

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The Edinburgh college direct 32 ounces of alcohol, and the same quantity of sulphuric acid, to be mixed together in a proper retort, and 16 ounces to be distilled over from a sand heat suddenly applied. To the distilled liquor are then to be added two drachms of potash, and from a very high retort 10 ounces are to be distilled with a gentle fire.

On the chemical nature and properties of sulphuric ether, see CHEMISTRY, Chap. XI. Sect. II. Its specific gravity should be about 739.

The medical uses of ether are thus described by Dr Duncan. "As a medicine taken internally, it is an excellent antispasmodic, cordial, and stimulant. In catarrhal and asthmatic complaints, its vapour is inhaled with advantage, by holding in the mouth a piece of sugar, on which ether has been dropt. It is given as a cordial in nausea, and in febrile diseases of the typhoid type, as an antispasmodic in hysteria, and in other spasmodic and painful diseases; and as a stimulus in soporose and apoplectic affections. Regular practitioners seldom give so much as half an ounce, much more frequently only a few drops, for a dose; but empirics have sometimes ventured upon much larger quantities, and with incredible benefit. When applied externally, it is capable of producing two very opposite effects, according to its management; for if it be prevented from evaporating, by covering the place to which it is applied closely with the hand, it proves a powerful stimulant and rubefacient, and excites a sensation of burning heat. In this way it is frequently used for removing pains in the head or teeth. On the contrary, if it be dropt on any part of the body exposed freely to the contact of the air, its rapid evaporation produces an intense degree of cold; and this is attended with a proportional diminution of bulk in the part to which it is applied: in this way it has frequently facilitated the reduction of strangulated hernia \*."

\*Duncan's  
Dispensatory.

d. ÆTHER SULPHURICUS CUM ALCOHOLE, E. Sulphuric ether with alcohol.

299  
Sulphuric ether with alcohol.

This is prepared by mixing together one part of sulphuric ether, and two parts of alcohol. In nature and properties it agrees with the *spiritus ætheris vitriolici* of the London Pharmacopœia.

e. OLEUM VINI, L. Oil of wine.

300  
Oil of wine.

This preparation is made by mixing together one part of alcohol, and the same quantity of sulphuric acid, and distilling, taking care that no black froth pass into the receiver. The oily part of the distilled liquor is to be separated from the volatile acid; and to the former is to be added as much water and pure kali, as is sufficient to correct the sulphureous smell. Then a gentle heat is to be applied to distil off the little ether that



History of Simple and Official Medicines. that the liquor contains; and the oil that floats on the remaining fluid is to be separated and preserved for use.

This is employed chiefly as an ingredient in the following preparation; though it is sometimes given alone as a stimulus, in a dose from 10 to 20 drops.

301 Compound spirit of vitriolic ether. *f.* SPIRITUS ÆTHERIS VITRIOLICI COMPOSITUS, L. Compound spirit of vitriolic ether.

Prepared by mixing two pounds of spirit of vitriolic ether, and three drams of the oil of wine.

It is employed as an antispasmodic in similar cases, and doses, as sulphuric ether.

302 Oily ethereal liquor. *g.* LIQUOR ÆTHEREUS OLEOSUS, D. LIQUOR HOFFMANNI ANODYNUS. Oily ethereal liquor. *Hoffmann's anodyne liquor.*

Made by distilling to one half the liquor that remains after preparing the Dublin vitriolic ether.

Similar in its properties to ether, but weaker. It is much the same as the former.

303 Aromatic sulphuric ether with alcohol. *h.* ÆTHER SULPHURICUS CUM ALCOHOLE AROMATICUS, E. Aromatic sulphuric ether with alcohol.

This is prepared by digesting, for seven days, an ounce of bruised cinnamon, an ounce of bruised lesser cardamom seeds, and two drams of powdered long pepper, in two pounds and a half of sulphuric ether with alcohol.

A powerful stimulant and tonic. Dose 30 drops to a dram.

304 Diluted alcohol. 25. ALCOHOL DILUTUM, E. SPIRITUS VINOSUS TENUIOR, L. SPIRITUS VINI TENUIOR, D. Diluted alcohol. *Weaker spirit of wine. Proof spirit.*

This is rectified spirit lowered with water to what is called *proof strength*, having a specific gravity of about 935. In all its essential properties it resembles common spirits, and either whisky or British spirit may be used for it. The proof spirit of commerce is usually distilled either from molasses or grain.

In pharmacy it is employed as a menstruum for making various tinctures.

305 Common acetous acid. 26. ACIDUM ACETOSUM IMPURUM. ACETUM VINI, D. ACETUM, L. Impure acetous acid. *Vinegar.*

As the vinegar commonly met with is made from other fermented liquors besides the juice of the grape, we have inserted it here among the vegetable principles. On the production and properties of vinegar, see CHEMISTRY, N<sup>o</sup> 649 and 2310. Common vinegar, besides diluted acetous acid, contains tartaric acid, tartrate of potash, supertartrate of potash, and mucilage. It should be transparent, of a pale yellow colour, fragrant pungent smell, and an agreeable sharp taste. It is seldom employed in medicine before it is purified by distillation or other processes to be immediately mentioned. Vinegar is a good family remedy as a refrigerant in fevers, as a stimulant external application in bruises, sprains, &c. and vinegar whey made by coagulating warm milk by means of good vinegar, is one of the best auxiliary diaphoretics with which we are acquainted.

Official Preparations.

*a.* ACIDUM ACETOSUM DESTILLATUM, E. ACETUM DISTILLATUM, L. D.

The Edinburgh college directs eight pounds of common acetous acid to be distilled in a glass vessel with a gentle heat, setting aside the first two pounds that come over, and preserving the next four pounds. The Dublin college directs 10 pounds of vinegar to be put into the still, and six pounds to be drawn off at once; and the London college, from five pounds, directs that there should be distilled off as much as comes over free from empyreuma.

Distilled vinegar is freed from the salts and mucilage contained in common vinegar, and therefore is purer and keeps better; but it is much weaker than good vinegar. If it has been distilled in glass vessels it can have acquired no metallic impregnation; but it is sometimes, as well as common vinegar, adulterated with sulphuric acid to make it appear stronger. This fraud may be detected by adding *muriate of baryta*, which will produce a white precipitate if sulphuric acid be present.

It is employed for gargles, for preparing various acetates, and other officinal medicines. It is also given as a refrigerant diluted with water in feverish disorders, and is applied externally.

*b.* ACIDUM ACETOSUM FORTE, E. ACIDUM ACETOSUM, L. Strong acetous acid. *Radical vinegar. Acetic acid.*

By the Edinburgh process, a pound of dried sulphate of iron is to be rubbed with 10 ounces of acetate of lead; the mixture is then to be put into a retort, and distilled as long as any acid comes over. The London college directs two pounds of coarsely powdered verdigris, well dried by means of a water bath, saturated with sea salt, to be put into a retort and distilled, repeating the distillation with the liquor that comes over.

On the production and properties of this acid, see CHEMISTRY, N<sup>o</sup> 652, *et seq.* Its specific gravity should be about 1060. It is sometimes contaminated with sulphurous acid or with lead. The former may be discovered by the unpleasant tickling cough it then occasions when snuffed up the nose; and the latter by adding sulphuret of ammonia, by which, if lead be present, the liquor will be tinged of a dark brown.

This preparation is employed chiefly as a stimulant to be snuffed up the nose in syncope, hysteria, and similar affections; externally it acts as a rubefacient. Both this and the two following may be used as fumigations to correct the bad smell of sick rooms.

*c.* ACETUM AROMATICUM, E. Aromatic vinegar. *Vinegar of the four thieves.*

Made by macerating four ounces of dried rosemary tops, four ounces of dried sage leaves, two ounces of dried lavender flowers, and two drams of cloves, in eight pounds of distilled acetous acid for seven days, and straining.

Sometimes given as a stimulus, diluted with water in typhus.

*d.* ACIDUM

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306 Distilled acetous acid.

307 Strong acetous acid.

308 Aromatic vinegar.



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*d.* ACIDUM ACETOSUM CAMPHORATUM, E. Camphorated acetic acid.

Prepared by dissolving half an ounce of camphor, reduced to powder by being rubbed with alcohol, in six ounces of strong acetic acid.

This should be kept in glass phials with ground stoppers. It is an excellent stimulus for snuffing up the nostrils.

*e.* SYRUPUS ACIDI ACETOSI, E. Syrup of acetic acid.

This is prepared by boiling together two pounds and a half of acetic acid (*common vinegar*), and three pounds and a half of double refined sugar.

Used in the same cases as acetated honey, (see N<sup>o</sup> 277.) to which it is preferable.

*f.* ACETAS POTASSÆ, E. KALI ACETATUM, L. ALKALI VEGETABILE ACETATUM, D. SAL DIURETICUS. Acetate of potash. *Acetated kali. Acetated vegetable alkali. Diuretic salt.*

This salt is made by boiling any quantity of subcarbonate of potash with distilled acetic acid, first using about five times its weight, and, during the boiling, gradually adding more till all effervescence ceases, slowly evaporating to dryness, fusing the dry salt, then dissolving it in water, and slowly evaporating the solution till there remains a dry white saline mass, which is to be kept well stoped from the air, in which it deliquesces. See CHEMISTRY, N<sup>o</sup> 987.

Acetate of potash is employed as a diuretic in a dose of from one to four scruples, and in a dilute solution as a refrigerant in fevers, &c.

*g.* SUBCARBONAS POTASSÆ IMPURUS, CARBONAS POTASSÆ IMPURUS, E. CINERES CLAVELLATI, L. ALKALI FIXUM VEGETABILE, D. Impure subcarbonate of potash. *Pearlashes. Fixed vegetable alkali.*

For the production and nature of this alkaline substance, see CHEMISTRY, Chap. XII. Sect. I. It is seldom employed in pharmacy, except as the basis of some official preparations.

*a.* SUBCARBONAS POTASSÆ, E. CARBONAS POTASSÆ, E. KALI PRÆPARATUM, L. ALKALI VEGETABILE MITE, D. Subcarbonate of potash. *Carbonate of potash. Prepared kali. Mild vegetable alkali.*

This is usually prepared from the former substance, which is purified by burning it in a crucible, then dissolving it in water, filtering and evaporating to dryness in a clean iron pot, stirring the mass as it dries, to prevent its coalescing into one cake.

This salt appears in small white grains of scarcely any perceptible smell, but of a hot alkaline taste. When pure, it should dissolve entirely in cold water, and should deliquesce in moist air into a limpid transparent fluid.

As usually made, it contains a considerable proportion of sulphate of potash, which may be separated from it by mixing it with its own weight of water, and al-

lowing it to stand till cold, when most of the sulphate of potash is separated in crystals.

This alkaline carbonate is employed as a diuretic, mixed with infusion of chamomile and spirit of juniper, in a dose of about a scruple repeated occasionally; and as an antacid. It is also employed in combination with citric acid, to relieve nausea and check vomiting.

*b.* AQUA KALI PRÆPARATI, L. LIXIVIUM MITE, D. Water of prepared kali. *Mild ley.*

This is made by allowing subcarbonate of potash to deliquesce in a moist atmosphere, and straining it; or, by dissolving it in an equal weight of water.

It possesses the same properties as the dry carbonate, and is employed chiefly for decomposing other salts.

*c.* AQUA CARBONATIS POTASSÆ, E. LIQUOR ALKALI VEGETABILIS MITISSIMI, D. Water of carbonate of potash. *Solution of mildest vegetable alkali.*

This is properly a neutral salt, and is prepared by dissolving subcarbonate of potash in water, and saturating it with carbonic acid, by passing through it a stream of this gas, arising from the decomposition of carbonate of lime by diluted sulphuric acid.

On the nature of this salt, see CHEMISTRY, N<sup>o</sup> 109, 174.

By this means the alkaline carbonate is better adapted for internal use, as it is rendered not only more pleasant to the taste; but is less apt to offend the stomach. Indeed it is the only form in which we can exhibit potash in sufficient doses, and for a sufficient length of time, to derive much benefit from its use in calculous complaints. It has certainly been frequently of advantage in these affections, but probably only in those instances in which the stone consists of uric acid, or urate of ammonia; for though supersaturated with carbonic acid, yet the affinity of that acid for potash is so weak, that it really operates as an alkali.

Six or eight ounces may be taken two or three times a-day. It in generally proves powerfully diuretic, and sometimes produces inebriation. This last effect is ascribed to the carbonic acid.

*d.* AQUA POTASSÆ, E. AQUA KALI PURI, L. Water of LIXIVIUM CAUSTICUM, D. Water of potash. *Water of pure kali. Caustic ley.*

The following is the Edinburgh process for obtaining a solution of pure potash.

Take of newly prepared lime, eight ounces; carbonate of potash, six ounces. Put the lime into an iron or earthen vessel, with 28 ounces of warm water. After the ebullition is finished, instantly add the salt, and having thoroughly mixed them, cover the vessel till they cool. When the mixture has cooled, agitate it well, and pour it into a glass funnel, whose throat must be obstructed with a piece of clean linen. Cover the upper orifice of the funnel, and insert its tube into another glass vessel, so that the water of potash may gradually drop through the rag into the lower vessel. As

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314  
Water of  
prepared  
kali.

315  
Water of  
carbonate  
of potash.

312  
Impure sub-  
carbonate  
of potash.

313  
Subcarbonate  
of potash.



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soon as it ceases to drop, pour into the funnel some ounces of water, but cautiously, so that it may swim above the matter. The water of potash will again begin to drop, and the affusion of water is to be repeated in the same manner, until three pounds have dropped, which will happen in the space of two or three days; then mix the superior and inferior parts of the liquor together by agitation, and keep it in a well-stopped phial.

From this process those of the London and Dublin colleges do not materially differ. For other methods of procuring pure potash, see CHEMISTRY, N° 905, *et seq.*

This preparation was formerly much employed in calculous disorders. From 10 to 40 drops were given in gruel, milk, or broth, twice or thrice a-day; but even in these doses it has often proved highly injurious, when long continued, to the organs of digestion. Hence it has been justly superseded by the solution of carbonate of potash above mentioned.

317  
Potash.

*e.* POTASSA, E. KALI PURUM, L. ALKALI VEGETABILE CAUSTICUM, D. LAPIS INFERNALIS. Potash. *Pure kali. Caustic vegetable alkali. Common stronger caustic.*

This is made by evaporating any quantity of the solution of potash in a very clean covered iron vessel, till on the ebullition ceasing, the saline matter flows like oil, which happens before the vessel becomes red. The mass is then to be poured out on a smooth iron plate, till it be divided into small pieces before it hardens, when it must be deposited in a well-stopt phial.

This has been long employed by surgeons as a caustic; but its use in this way is inconvenient, as from its rapid deliquescence it is not easily confined.

318  
Potash with  
lime.

*f.* POTASSA CUM CALCE, E. CALX CUM KALI PURO, L. CAUSTICUM MITIUS, D. Potash with lime. *Lime with pure kali. Milder caustic.*

Made by evaporating in a covered iron vessel any quantity of solution of potash till it is reduced to a third, and then gradually adding as much newly slaked or powdered lime as is sufficient to form a thick mass, which is to be kept in a closely stopped vessel. This is employed as a caustic, and is milder in its operation, and more manageable than the last.

319  
Bees wax.

28. CERA. Bees wax.

Though wax is generally obtained from honeycombs, we have here introduced it as a vegetable principle, since modern chemistry has shown that it may be obtained by certain processes from most vegetables. See CHEMISTRY, N° 2432.

Two varieties of wax are employed in medicine, *cera flava*, yellow wax, which is the wax as it is naturally procured from the comb, and *cera alba*, white wax, bleached by art. They do not differ in their sensible properties, and the white wax is only preferable to the yellow, from its making ointments, &c. of a more delicate colour.

Wax is seldom employed internally, though it is sometimes administered as an emollient by way of emulsion in diarrhoea and dysentery. It is used chiefly for preparing ointments, liniments, and cerates.

*Official Preparations.*

*a.* LINIMENTUM SIMPLEX, E. Simple liniment.

Made by melting together one part of white wax, and four of olive oil.

*b.* UNGUENTUM SIMPLEX, E. Simple ointment.

This differs from the last, only in its proportions, being composed of two parts of white wax, and four of olive oil.

*c.* UNGUENTUM CEREUM, L. D. Wax ointment.

Made by melting together four ounces of white wax, three ounces of spermaceti, and a pint of olive oil.

*d.* EMPLASTRUM SIMPLEX, E. EMPLASTRUM CERÆ, D. EMPLASTRUM CERÆ COMPOSITUM, L. Simple plaster. *Wax plaster. Compound wax plaster.*

The Edinburgh preparation is composed of three parts of yellow wax, and of mutton suet and white rosin each two parts; that of the London and Dublin colleges is formed from yellow wax and mutton suet, each three pounds, and yellow rosin one pound.

29. AMMONIACUM. Gum ammoniac.

This is a common concrete, gummy, resinous juice from the East Indies, generally in large masses, composed of little lumps or tears, of a milky whiteness: the external parts of the mass are commonly yellowish or brownish, and the white tears change to the same colour on being exposed for some time to the air. Of the plant from which it is extracted, we have no further knowledge, than what is learnt from the seeds found among the tears, which resemble those of dill, except that they are larger, and apparently belong to a plant of the umbelliferous kind.

Ammoniacum has a strong smell, and a nauseous sweetish taste, which is followed by a bitter one. It is frequently made use of in asthmas, in menstrual suppressions, and cachectic indispositions. In obstructions of the breast it is accounted the most effectual of the aperient gums: in hysteric cases, some of the others are preferred or joined to it, on account, chiefly, of their more powerful smell. It is most commodiously taken in the form of pills; the dose is a scruple or half a dram, every night or oftener: in larger doses, as a dram, it generally loosens the belly. Applied externally, it is supposed to discuss hard indolent tumours.

*Official Preparations.*

*a.* AMMONIACUM PURIFICATUM. Purified gum ammoniac.

Ammoniacum is purified by melting it in hot water, squeezing it through linen, and evaporating to a proper consistence.

*b.* LAC AMMONIACI, L. D. Emulsion of gum ammoniac.

Made by triturating two drams of ammoniac with half a pint of distilled water till an emulsion is formed.

Given in most cases where ammoniac is used as an expectorant. Dose an ounce or two, repeated occasionally.

*c.* EMPLASTRUM

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320  
Simple lini-  
ment.

321  
Simple oint-  
ment.

322  
Wax oint-  
ment.

323  
Simple  
plaster.

324  
Ammoniac-  
cum.

325  
Purified  
gum amme-  
niac.

326  
Emulsion of  
gum am-  
moniac.



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## c. EMPLASTRUM GUMMOSUM, E. Gum plaster.

Made by melting together eight parts of plaster of semivitrified oxide of lead, one part of gum ammoniac, and the same proportion of galbanum and yellow wax. Employed to form adhesive plasters.

## 30. MYRRHA. Myrrh.

327  
Myrrh.

Myrrh is a gum resin brought from the East Indies, or from Abyssinia. The best myrrh is in the form of tears. It should be of a yellow, or reddish yellow colour, becoming redder when breathed on, light, brittle, of an unctuous feel, pellucid, shining, presenting white semicircular striæ in its fracture; of a very bitter aromatic taste, and a strong, peculiar, not unpleasant odour. It is not good if whitish, dark-coloured, black, resinous, ill-smelled, or mixed with impurities, which is too commonly the case.

Neumann ascertained that water and alcohol are both of them capable of taking up the whole of the taste and smell of the myrrh, the extract made by either after the other being insipid. The alcohol distilled from the tincture elevated none of the flavour of the myrrh; but during the inspissation of the decoction a volatile oil arose, containing the whole of the flavour of the myrrh, and heavier than water, while the extract was merely bitter. From 7680 parts of myrrh he got 6000 watery extract, 180 volatile oil, and 720 alcoholic; and inversely, 2400 alcoholic, and 4200 watery. Dr Duncan junior has observed that the tincture is transparent, and when poured into water, forms a yellow opaque fluid, but lets fall no precipitate, while the watery solution is always yellow and opaque; and that myrrh is not fusible, and is difficultly inflammable. Mr Hatchett found it soluble in alkalies.

Myrrh is a heating stimulating medicine. It frequently occasions a mild diaphoresis, and promotes the fluid secretions in general. Hence it proves serviceable in cachectic diseases, arising from inactivity of the system, and is supposed to act especially upon the uterine system, and to resist putrefaction.

\* Duncan's  
Dispensatory.

It is exhibited in substance; in the form of powder, or made up into pills, in doses of 10 to 60 grains; dissolved in water, as in Griffith's famous, but unchemical, myrrh mixture; and dissolved in alcohol\*.

## Official Preparations.

## a. TINCTURA MYRRHÆ. Tincture of myrrh.

328  
Tincture of  
myrrh.

This tincture is made by digesting three ounces of powdered myrrh in about 20 ounces of alcohol, mixed with 10 ounces of water, according to the Edinburgh process; half a pint of alcohol, with a pint and a half of proof spirit, according to the London college; or two pounds of alcohol according to that of Dublin, for seven or eight days.

Tincture of myrrh is seldom given internally, its principal use being as an external application, either as a gargle, or as a lotion for cleansing foul ulcers, and promoting the exfoliation of carious bones.

329  
Compound  
powder of  
myrrh.

## b. PULVIS MYRRHÆ COMPOSITUS, L. Compound powder of myrrh.

Made by rubbing together into a powder equal

parts of myrrh, dried favin, dried rue, and Russian castor.

Given as a stimulus in uterine obstructions. Dose from a scruple to a dram several times in the day.

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## 31. SAGAPENUM. See CHEMISTRY, N° 2495.

330  
Sagape-  
num.

Sagapenum is employed as a stimulant and antispasmodic, chiefly in combination with other gum resins, to be mentioned hereafter.

## 32. ANGUSTURA. CORTEX ANGUSTURÆ. Angustura bark.

331  
Angustura.

This bark was some years ago introduced into this country from the West Indies. It is not certainly known of what tree it is the produce, but it is probable that it is a species of cinchona. It is thus described by Mr Brande. "There is a considerable variety in the external appearance of the angustura bark, owing, however, probably, to its having been taken from trees of different sizes and ages, or from various parts of the same tree, as the taste and other properties perfectly agree. Some parcels (says Mr Brande) which I have examined, consist chiefly of slips torn from branches which could not have exceeded the thickness of a finger. These are often smooth, three feet or more in length, and rolled up into small bundles. In others, the pieces have evidently been, for the greater part, taken from the trunk of a large tree, and are nearly flat, with quills of all sizes intermixed.

"The outer surface of the angustura bark, when good, is in general more or less wrinkled, and covered with a coat of a grayish white, below which it is brown, with a yellow cast: the inner surface is of a dull brownish yellow colour. It breaks short and resinous. The smell is singular and unpleasant, but not very powerful; the taste intensely bitter, and slightly aromatic; in some degree resembling bitter almonds, but very lasting, and leaving a sense of heat and pungency in the throat. This bark, when powdered, is not unlike the powder of Indian rhubarb. It burns pretty freely, but without any particular smell\*."

\* See  
Brande on  
the Angu-  
stura Bark.

It is employed as a tonic, generally in substance; dose from 15 to 30 grains. It may also be given in the form of infusion, decoction, tincture, or extract. It is well adapted to cases of debility of the alimentary canal.

## 33. COLOMBA. RADIX COLOMBÆ. Columbo root.

This root is brought from Columbo, a town in the island of Ceylon, to which it was originally transplanted from the continent of India. It is called by the Portuguese *Raijs de Mosambique*. We are as yet unacquainted with the vegetable of which it is a part.

Columbo root comes to us in circular pieces, which are from half an inch to three inches in diameter, and from two inches to a quarter of an inch in length. The sides are covered with a thick wrinkled bark, of a dark brown colour externally, but of a light colour within. The surfaces of the transverse sections appear very unequal, highest at the edges, with a concavity towards the centre. On paring off this rough surface, the root is seen to consist of three laminae, the cortical, ligneous, and medullary. This last is much the softest, and, when chewed, seems very mucilaginous. A number of small fibres run longitudinally through it, and appear



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on the surface. The cortical and ligneous parts are divided by a circular black line. All the thicker pieces have small holes drilled through them, for the convenience of drying.

This root has an aromatic smell, but is disagreeably bitter and pungent to the taste, resembling mustard seed long kept.

This is an excellent bitter tonic, useful in debilities of the stomach and intestinal canal, in bilious diarrhoeas, in bilious fevers, in which it sometimes agrees when Peruvian bark fails; in the nausea and vomiting attending pregnancy. It is usually given in substance, in a dose from 15 grains to half a dram, or by way of infusion.

*Official Preparation.*

333  
Tincture of  
columbo.

TINCTURA COLOMBÆ, E. L. Tincture of Columbo.

The Edinburgh college direct this tincture to be made, by digesting for eight days two ounces of columbo root in two pounds of diluted alcohol. The London tincture is stronger than this, being made with two ounces and a half of the root to two pints of proof spirit. This tincture may be given in a dose of a dram or two.

For some valuable observations on the nature and uses of columbo root, see *Percival's Essays*, vol. ii.

SECT. II. Medicinal Vegetables, arranged according to the System of Linnaeus.

CLASS I. MONANDRIA. Order 1. MONOGYNIA.

334  
Round zedoary.

34. KÆMPFERIA ROTUNDA. ZEDOARIA, L. Round zedoary root.

This is a spicy root brought from the East Indies, in pieces about an inch long, rather rough on the surface, and commonly terminating in a point. It is seldom employed except as an ingredient in an aromatic electuary to be afterwards mentioned.

335  
Turmeric  
root.

35. CURCUMA LONGA. CURCUMA, L. Turmeric root.

This is brought from the East Indies, where it is employed as a spice. The roots are tuberous, long, knotty, and wrinkled; of a pale yellow colour externally, and a shining saffron brown within; of a weak aromatic smell, and a warm, slightly bitter taste.

Seldom employed in this country as a remedy, but much used in the composition of curry powder.

336  
Ginger.

36. AMOMUM ZINGIBER, E. ZINGIBER, L. D. Ginger root. See BOTANY, p. 76.

This is the least acrimonious of all the foreign aromatics. It may be taken in considerable quantities, either with food or as a medicine. It is an excellent stimulant, peculiarly suited to the constitutions of those whose stomachs are subject to flatulency, atonic gout, and other disorders marked by want of energy in the organs of digestion. In these cases it may be given either by itself, or combined with bitters and other tonics. It is also joined with antacids. It is a common and useful addition to cathartic medicines, particularly to infusions and tinctures of the vegetable cathartics, serving to moderate their irritating action on the bowels. The pulverized root may be given in doses from 10 to 30

grains. It has sometimes been used with advantage as a masticatory in stromous affections of the tonsils. It is often prescribed in the form of a watery infusion, made by steeping two ounces of the bruised root in one pint of boiling water. A small wine glass full of such an infusion, taken warm three or four times a day, has afforded great relief in many cases of gouty dyspepsia.

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*Official Preparations.*

a. TINCTURA ZINGIBERIS, L. Tincture of ginger. <sup>337</sup> Tincture of ginger.

This is made by digesting two ounces of powdered ginger in two pounds of proof spirit, for eight days. It may be given in a dose of two or three drams, mixed with water.

b. SYRUPUS AMOMI ZINGIBERIS, E. SYRUPUS ZINGIBERIS, L. Syrup of ginger. <sup>338</sup> Syrup of ginger.

The Edinburgh syrup is made by macerating three ounces of beaten ginger in four pounds of boiling water for 24 hours in a covered vessel, and then forming the syrup by adding seven pounds and a half of double refined sugar. The syrup of the London college is made with four ounces of bruised ginger to three pints of boiling distilled water, adding a sufficient quantity of double refined sugar to make a syrup.

A useful addition to stimulating mixtures, and employed in pharmacy as a constituent in several electuaries and pills.

37. AMOMUM ZEDOARIA, D. Long zedoary root. <sup>339</sup> Long zedoary.

A spicy root brought from the East Indies, especially from Ceylon, much resembling the kæmpferia in properties, but rather stronger.

38. AMOMUM CARDAMOMUM. AMOMUM REPENS, E. CARDAMOMUM MINUS, L. D. Lesser cardamom feeds. <sup>340</sup> Lesser cardamom feeds.

It is uncertain whether these feeds are the produce of the *amomum cardamomum* or *repens*. They are brought from the East Indies, and form a very grateful aromatic, frequently employed in practice as a stimulant. They are brought to us in little whitish, roundish, triangular, pointed pods. The feeds are of a dark brown colour, of a fragrant smell, and pungent, rather saltish taste. The husks are separated from the rest by beating them in a mortar.

*Official Preparations.*

TINCTURA AMOMI REPENTIS, E. TINCTURA CARDAMOMI, L. D. Tincture of cardamom feeds. <sup>341</sup> Tincture of cardamom feeds.

The Edinburgh tincture is made by digesting for seven days, four ounces of bruised cardamom feeds in two pounds and a half of diluted alcohol. In the London formula, three ounces of the feeds are digested for eight days in two pints of proof spirit. Dose two or three drams.

b. TINCTURA CARDAMOMI COMPOSITA, L. D. Compound tincture of cardamom feeds. <sup>342</sup> Compound tincture of cardamom feeds.

Made by digesting two drams of lesser cardamom feeds powdered, the same quantity of powdered caraway



History of Simple and Official Medicines. raway feeds (and in the London formula, of cochineal), half an ounce of bruised cinnamon, and four ounces of stoned raisins, in two pints, (or according to the Dublin college, two pounds), of proof spirit for 14 days.

A very grateful aromatic tincture, sometimes given alone as a cordial, in a dose of three or four drams, but more commonly added to stimulant draughts and juleps, to which it gives a fine rich colour.

<sup>343</sup> Galangal root. 39. MARANTA GALANGA. GALANGA. Galangal root.

Sometimes employed as a warm aromatic, in a dose of about a scruple.

CLASS II. DIANDRIA. Order I. MONOGYNIA.

<sup>344</sup> Olive oil. 40. OLEA EUROPÆA, E. OLIVA, L. D. The olive tree. OLEUM OLIVÆ. Olive oil.

Pure olive oil should have a fine rich greenish yellow colour, with scarcely any perceptible taste or smell; should be perfectly transparent, and should congeal at about 38° of Fahrenheit. It is brought to us from the south of France, from Italy, and the Levant. The best is supposed to come from Florence.

Olive oil is chiefly employed as an emollient, both externally and internally. Internally it is sometimes employed as a gentle laxative, and to moderate the action of acrid substances, especially poisons. It has been given as an anthelmintic, either alone or formed into an emulsion with ammonia.

<sup>345</sup> Hedge hyffop. 41. GRATIOLA OFFICINALIS, E. GRATIOLA, L. Hedge hyffop.

This plant, when dried, is sometimes employed as a drastic purgative and anthelmintic, given in substance, in a dose of from 20 to 30 grains, or by way of infusion, to the extent of 3 drams. Its use requires caution.

<sup>346</sup> Rosemary. 42. ROSMARINUS OFFICINALIS, E. ROSMARINUS, L. D. Rosemary.

The tops of rosemary are used as a stimulant, and form an ingredient in some tinctures. Rosemary owes its stimulating powers to its essential oil, which is very similar to camphor.

*Official Preparations.*

<sup>347</sup> Volatile oil of rosemary. a. OLEUM VOLATILE ROSMARINI OFFICINALIS, E. OLEUM ROSMARINI, L. Volatile oil of rosemary.

This oil, like most of the other volatile oils of aromatic plants, is obtained by distilling the plant with a sufficient quantity of water to prevent burning, and separating the oil that floats on the surface of the distilled liquor, by means of a funnel with a long capillary tube.

Oil of rosemary is seldom employed alone, but it may be given in a dose of a few drops as a stimulant.

<sup>348</sup> Spirit of rosemary. b. SPIRITUS ROSMARINI OFFICINALIS, E. SPIRITUS ROSMARINI, L. Spirit of rosemary.

Made by distilling 2 pounds, or, according to the

London college a pound and a half, of rosemary tops, with a gallon of diluted alcohol, and a sufficient quantity of water to prevent burning, distilling off a gallon.

Chiefly employed to form some compound tinctures, or as an external stimulant, in which way it is commonly used under the name of *Hungary water*.

43. SALVIA OFFICINALIS. E. SALVIA, L. D. Sage. <sup>349</sup> Sage leaves.

An infusion of sage leaves is sometimes employed as a refreshing drink in fevers, and has been recommended as a tonic in nervous debilities and dyspepsia. It forms a good substitute for Chinese tea.

44. VERONICA BECABUNGA. BECABUNGA, L. <sup>350</sup> Brooklime. D. Brooklime. See BOTANY, p. 84.

A common succulent plant that has been recommended as an excellent antiscorbutic.

Order 3. TRICYNIA.

45. PIPER NIGRUM. Black pepper. <sup>351</sup> Black pepper.

This is brought from the East Indies, being cultivated chiefly in Java and Malabar. White pepper is the same fruit, with the black bark taken off.

Pepper is one of the most heating spices, and is said sometimes to act violently on the kidneys, so as when taken in large quantities to excite nephritis. It is not frequently given internally as a stimulant, especially in the form of powder. A few grains of white pepper swallowed whole, are recommended by some practitioners, as a remedy in the debility of the digestive organs.

46. PIPER CUBEBA. CUBEBA. L. Cubebs. <sup>352</sup> Cubebs.

These are scarcely to be distinguished by the eye from common pepper, except in being furnished with a long slender stalk. They are brought from Java. In stimulating properties they resemble pepper, but are much weaker, and are seldom used.

47. PIPER LONGUM. Long pepper. <sup>353</sup> Long pepper.

Long pepper appears in small round grains, disposed spirally in a long cylindrical head. It is extremely pungent, and has a kind of saltish taste. It is employed chiefly as an ingredient in an aromatic electuary and tincture.

CLASS III. TRIANDRIA. Order I. MONOGYNIA.

48. VALERIANA OFFICINALIS, E. VALERIANA SYLVESTRIS, L. D. Valerian root. <sup>354</sup> Valerian root.

This root consists of a number of strings or fibres, of a pale brownish colour, proceeding from a common stock, and matted together. It has a very strong, unpleasent smell, and a warm, bitterish, acrid taste. It imparts its smell to water distilled from it, and most of its properties may be imparted to alcohol. Valerian grows commonly in Britain, and the best is that which grows in high, dry situations. The roots should be taken up in autumn or winter.

Valerian is a valuable antispasmodic, and is properly ranked among the most powerful of that class of remedies. It has been found efficacious in epilepsy, in which it should be given in substance, in large doses, to the extent



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extent of a dram or two several times a day. It is useful in hysteria, and in cases of great nervous sensibility. It is sometimes united with cinchona in the form of an electuary. The usual dose is from 15 to 30 grains. Its unpleasant flavour is most effectually concealed by the addition of a little mace.

*Official Preparations.*

355  
Tincture of  
valerian.

a. TINCTURA VALERIANI, L. Tincture of valerian.

This is made by digesting four ounces of valerian root in coarse powder in two pints of proof spirit for eight days, with a gentle heat.

This tincture is given in the same cases in which valerian is useful in substance, in a dose of from two to four drams; but it is not so efficacious as the powder, or the following tincture.

b. TINCTURA VALERIANI AMMONIATA, L. D. Ammoniated tincture of valerian.

Made by digesting for eight days, in a closely covered vessel, four ounces of powdered valerian root in two pints of compound spirit of ammonia.

This is perhaps the best form in which valerian can be given, as its antispasmodic virtues are much improved by the addition of ammonia. Dose a dram or two, which is best taken in water a little warmed.

356  
Resinous  
extract of  
wild vale-  
rian.

c. EXTRACTUM VALERIANI SYLVESTRIS RESINOSUM, D. Resinous extract of wild valerian.

This extract is made by digesting for four days a pound of powdered valerian in four pounds of rectified spirit of wine; then pouring off the tincture, and boiling the residuum in 12 pounds of water to two pounds. The two liquors are to be strained separately; the decoction is to be boiled, and the tincture distilled, till both are sufficiently thick, and they are then to be mixed together.

Of the effects of this extract we have had no experience; but we believe an extract made by inspissating the ammoniated tincture, has been given with success in the form of pills.

357  
Saffron.

49. CROCUS SATIVUS, E. CROCUS, L. D. Saffron.

Saffron is made from the stigmata of the above species of the crocus, which is cultivated for that purpose in some parts of England, especially in Essex. Saffron is also brought from abroad, but that of our own produce is considered as the best. See BOTANY, p. 100.

*Official Preparations.*

358  
Syrup of  
saffron.

a. SYRUPUS CROCI, L. Syrup of saffron.

This is made by infusing an ounce of saffron in a pint of boiling distilled water for 12 hours, and boiling the strained infusion with a sufficient quantity of double refined sugar to form a syrup.

Syrup of saffron is used chiefly as a pleasant addition to draughts and juleps, to which it imparts a fine yellow colour.

359  
Tincture of  
saffron.

b. TINCTURA CROCI, E. Tincture of saffron.

Made by digesting an ounce of English saffron cut

into shreds, in 15 ounces of diluted alcohol for seven days, and straining the tincture.

By some practitioners this is considered as a good remedy in chronic weakness, and is given in the dose of a table spoonful undiluted, every morning.

50. IRIS FLORENTINA, E. IRIS, L. Florentine orris. 360  
Florentine orris.

This is brought from Italy in white, flattish, knotty pieces, that are very difficult to break or powder. It has an agreeable fragrant smell, and a slightly bitter taste. It is employed chiefly as a perfume.

51. IRIS PSEUDACORUS. IRIS, D. Water flag. 361  
Water flag.  
See BOTANY, p. 100.

Order 2. DIGYNIA.

52. SACCHARUM OFFICINARUM. Sugar. SACCHARUM NON PURIFICATUM, E. L. SACCHARUM RUBRUM, D. Brown sugar. SACCHARUM PURIFICATUM, L. D. SACCHARUM PURISSIMUM, E. Refined sugar. 362  
Sugar.  
363  
Refined sugar.

On the chemical properties of sugar, see CHEMISTRY. Brown sugar is sometimes employed as a gentle laxative, especially in clysters. Refined sugar is used chiefly in making syrups and conserves, and in giving an agreeable taste.

*Official Preparation.*

a. SYRUPUS SIMPLEX, E. Simple syrup. 364

Made by dissolving 15 parts of double refined sugar in 8 of water, by a gentle heat. Simple sy-  
rup.

53. AVENA SATIVA, E. AVENA, L. Oats. 365  
Oats.

Oats are employed in medicine chiefly to form gruel, which is made either from groats or oatmeal, and is an useful diluent in febrile and inflammatory affections, and is also used in clysters as an emollient. Poultices are sometimes made of oatmeal, mixed with other substances according to the nature of the case.

54. TRITICUM {ÆSTIVUM, D. } Common wheat. 366  
Common  
wheat.  
FARINA. Flour. AMYLUM. Starch. 367  
Starch.

Flour and starch are sometimes used as emollients, especially the latter, in the form of clysters or troches, in cases of diarrhoea, dysentery, &c.

*Official Preparations.*

a. MUCILAGO AMYLI, E. L. Mucilage of starch. 368  
Mucilage  
of starch.  
Made by triturating half an ounce of starch with one pound of water, and then boiling the liquor till it be sufficiently thick.

b. TROCHISCI AMYLI, L. Troches of starch. 369  
Troches of  
starch.  
Composed of an ounce and half of starch, six drams of extract of liquorice, half an ounce of powdered Florentine orris root, and one pound and a half of double refined sugar, made into a mass for troches, with mucilage of gum tragacanth.

These troches are employed as demulcents, to allay the irritation of tickling coughs.

55. HORDEUM



History of  
Simple and  
Official  
Medicines.370  
Common  
barley.

55. HORDEUM DISTICHON, E. D. HORDEUM,  
L. Common barley.

Common barley freed from the husks, and formed into what is called *pearl barley*, is used in medicine as an emollient in the form of decoction, or barley water.

*Official Preparations.*371  
Decoction  
of barley.

a. DECOCTUM HORDEI DISTICHI, E. DECOCTUM  
HORDEI, L. Decoction of barley.

The making of barley water requires more nicety than is usually supposed. The following is the method directed in the Edinburgh Pharmacopœia.

Take of pearl barley two ounces; water five pounds.

First wash off the mealy part which adheres to the barley with some cold water; then extract the colouring matter by boiling it a little with about half a pound of water. Throw this decoction away, and put the barley thus purified into five pounds of boiling water, which is to be boiled down to one half, and strain the decoction.

372  
Compound  
decoction of  
barley.

b. DECOCTUM HORDEI COMPOSITUM, L. Com-  
pound decoction of barley.

Made by boiling two pints of the decoction of barley, two ounces of sliced figs, half an ounce of liquorice root sliced and bruised, two ounces of stoned raisins, in one pint of distilled water, boiled to two pints and strained.

These decoctions may be used as common drink, in pneumonia, and similar affections of the breast.

## CLASS IV. TETRANDRIA. Order I. MONOGYNIA.

373  
Sarcocol.

56. PENÆA SARCOCOLLA. SARCOCOLLA, L.  
Sarcocol. See CHEMISTRY, N<sup>o</sup> 2493.

374  
Madder  
root.

57. RUBIA TINCTORUM, E. RUBIA, L. D. Mad-  
der root.

This root has been long reputed a specific in uterine obstructions, but we believe without any good foundation. It is recommended in the atrophy of children, given in substance, in doses of a scruple or half a dram several times a-day. Its property of tinging the bones of animals has been already mentioned.

375  
Contrayer-  
va.

58. DORSTENIA CONTRAYERVA, E. CONTRAYER-  
VA, L. Contrayerva root.

The root of this plant is knotty, an inch or two long, about half an inch thick, of a reddish brown colour externally, and pale within. From all sides of it there shoot out long, rough, slender fibres, generally loaded with knots. It has a peculiar kind of aromatic smell, and its taste is somewhat astringent and bitterish, with a light sweetish kind of acrimony, when chewed for a considerable time. The fibres have little or no taste or smell, therefore the tuberos parts alone should be chosen.

This plant is perennial, and grows in South America and some of the Caribbee islands.

Contrayerva has been employed as a stimulant diaphoretic, in typhus fever, given in substance, in a dose

of from 30 to 40 grains; and a decoction of it, used as a gargle, has been recommended in putrid sore throat.

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Simple and  
Official  
Medicines.*Official Preparation.*

a. PULVIS CONTRAYERVÆ COMPOSITUS, L. Com-  
pound powder of contrayerva.

376  
Compound  
powder of  
contrayer-

This is made by mixing together five ounces of powdered contrayerva, and one pound and a half of powder of crabs claws. Dose about a dram, repeated every three or four hours.

## CLASS V. PENTANDRIA. Order I. MONOGYNIA.

59. ANCHUSA TINCTORIA, E. ANCHUSA, D.  
Alkanet root.

377  
Alkanet  
root.

This root is employed merely to give colour to an ointment.

60. SPIGELIA MARYLANDICA, E. SPIGELIA,  
L. D. Carolina pink root.

378  
Carolina  
pink root.

From 10 to 20 grains of the root of this plant have been given twice a day to children between 2 and 12 years of age, when troubled with worms. It generally operates as a purgative; but when it does not produce this effect in a sufficient degree, proper doses of rhubarb, jalap, or calomel, should be given with it. As the spigelia may be easily overdosed, and in that case produces alarming symptoms, it should perhaps be erased from the catalogue of vermifuge medicines, of which there is a sufficient number without it, that are at least equally efficacious, and much safer in their operation.

61. MENYANTHES TRIFOLIATA, E. TRIFOLIUM  
PALUDOSUM, L. D. Marsh trefoil.

379  
Marsh tre-  
foil.

This plant operates by purging and vomiting, in a dose of a dram. It has been recommended in fevers and intermittents, but is seldom employed.

62. CONVULVULUS SCAMMONIA, E. SCAMMO-  
NIUM, L. D. Scammony.

380  
Scammony.

This is a gum resin which is brought from Syria, Myfia and Cappadocia. The roots of this plant, which are very long and thick, when fresh contain a milky juice. To obtain this, the earth is removed from the upper part of the roots, and the tops of these are cut obliquely off. The milky juice which flows out, is collected in a small vessel sunk in the earth at the lower end of the cut. Each root furnishes only a few drams, but it is collected from several vessels, and dried in the sun. This is the true and unadulterated scammony. It is light, of a dark gray colour, but becomes of a whitish yellow when touched with the wet finger, is shining in its fracture, has a peculiar nauseous smell, and bitter acrid taste, and forms with water a greenish milky fluid, without any remarkable sediment. In this state of purity it seldom reaches us, but is commonly mixed with the expressed juice of the root, and even of the stalks and leaves, and often with flour, sand, or earth. The best to be met with in the shops comes from Aleppo, in light spongy masses, having a heavy disagreeable smell; friable, and easily powdered; of a shining ash colour, verging to black; when powdered of



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Simple and  
Official  
Medicines.

\* Dr Dun-  
can's Dis-  
pensatory.

of a light gray or whitish colour. An inferior sort is brought from Smyrna in more compact ponderous pieces, not so friable, with less smell, and less easily powdered, of a darker colour, not so resinous, and full of sand and other impurities\*. See CHEMISTRY, N<sup>o</sup> 2488.

Scammony is one of the most drastic purgatives, and as such is sometimes given in dropsy, in a dose of from 5 to 15 grains. It is also one of the most common anthelmintics; but in this latter case is generally combined with a mercurial.

*Official Preparations.*

381  
Compound  
powder of  
scammony.

a. PULVIS SCAMMONIÆ COMPOSITUS, L. E. D. Compound powder of scammony.

The London powder is composed of scammony, hard extract of jalap, of each two ounces; ginger, half an ounce: powdered separately, and then mixed together.

This powder in the Edinburgh Pharmacopœia is directed to be composed of scammony, supertartrate of potash, equal parts rubbed together to a fine powder. The Dublin formula directs of scammony and vitriolated vegetable alkali, each two ounces, and ginger half an ounce, powdered separately, and then mixed together.

As the strength of these powders is different, their doses must vary: from 10 to 30 grains of the Edinburgh powder, and from 8 to 15 of the others, may be given for a dose.

382  
Compound  
powder of  
scammony  
with aloes.

b. PULVIS SCAMMONII COMPOSITUS CUM ALOE, L. Compound powder of scammony with aloes.

This is composed of six drams of scammony, hard extract of jalap, fœcotorine aloes, of each one ounce and a half, of ginger half an ounce, powdered separately and mixed together.

Dose from 5 to 15 grains.

383  
Powder of  
scammony  
with calo-  
mel.

c. PULVIS SCAMMONII CUM CALOMELANE, L. Powder of scammony with calomel.

This is composed of scammony half an ounce, calomel, double refined sugar, of each two drams, powdered separately and then mixed together.

This is well suited to cases of worms, and may be given from 12 to 20 grains.

384  
Electuary  
of scammo-  
ny.

d. ELECTUARIIUM SCAMMONII, L. D. Electuary of scammony.

Prepared of an ounce and a half of powdered scammony, cloves, ginger, of each six drams, essential oil of caraway half a dram, and syrup of roses or orange peel, a sufficient quantity to form an electuary.

A brisk warm purgative, dose from 15 to 30 grains.

385  
Jalap.

63 CONVULVULUS JALAPA, E. JALAPIUM, L. JALAPA, D. Jalap root.

The botanical and medical history of this simple has been already sufficiently detailed under the article BOTANY, p. 132. It remains here only to notice the

*Official Preparations.*

a. PULVIS JALAPÆ COMPOSITUS, E. Compound powder of jalap.

This is prepared by grinding together one part of powdered jalap and two parts of supertartrate of potash into a fine powder.

The supertartrate of potash in this preparation is useful chiefly for assisting in reducing the jalap to a finer powder, and thus rendering its operation milder. Dose from half a dram to one dram.

b. EXTRACTUM CONVULVULI JALAPÆ, E. EXTRACTUM JALAPII, L. EXTRACTUM JALAPÆ, D. Extract of jalap.

This extract, according to the Edinburgh process, is made by digesting one pound of powdered jalap in four pounds of alcohol for four days, pouring off the liquor, and boiling the residuum for 15 minutes in five pounds of distilled water, filtering the decoction while boiling hot through linen. This decoction is to be repeated with the same quantity of water, and both decoctions, when filtered, are to be boiled to the consistency of honey. In the mean time the spirit is to be drawn off from the tincture by distillation, till this also becomes thick, when it is to be mixed with the watery extract, and both evaporated in a bath of boiling water saturated with muriate of soda, till there is formed a mass of a proper consistence for making pills.

This extract is a powerful purgative; it may be given in a dose of from 5 to 15 grains.

c. TINCTURA CONVULVULI JALAPÆ, E. TINCTURA JALAPII, L. TINCTURA JALAPÆ, D. Tincture of jalap.

This tincture is made by digesting three ounces (according to the Edinburgh college) or eight ounces according to the colleges of London and Dublin, of powdered jalap, in 15 ounces (or two pints London, or two pounds Dublin), of diluted alcohol, for seven or eight days, and straining the liquor through paper.

The dose of the Edinburgh tincture may be from three to six drams; that of the others from two to four drams.

64. DATURA STRAMONIUM, E. STRAMONIUM, L. Thorn apple. See BOTANY, p. 137.

65. HYOSCYAMUS NIGER, E. HYOSCYAMUS, L. D. Black henbane.

This plant grows commonly on dunghills and uncultivated places in several parts of Britain. It produces large, dark-coloured, woolly, jagged leaves, of a very strong and peculiar smell, sparkling when burnt, as if impregnated with nitre. These leaves are the principal part employed in medicine, acting as a narcotic. The seeds are also employed, and when smoked like tobacco, are said to be an excellent remedy in toothach.

Wherever an anodyne is wanted, and opium disagrees, this herb, and the preparations from it, may be prescribed. It is especially suited to spasmodic and colic affections, and to cases of chronic rheumatism and arthritis.

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386

Compound  
powder of  
jalap.

387

Extract of  
jalap.

388

Tincture of  
jalap.

389

Thorn apple.

390

Black henbane.



History of Simple and Official Medicines. **arthritis.** Instances are also recorded of its beneficial effects in mania and melancholy; but in the last-mentioned disorders, it has at least as often failed as it has succeeded, and is, on the whole, a doubtful remedy in diseases belonging to the order of vesaniae. It does not occasion costiveness like opium, and forms one of the best substitutes for this expensive narcotic. Given in large doses; it produces great debility, delirium, remarkable dilatation of the pupils of the eyes, convulsions, and death. It is usually given in the form of extract, but the leaves are sometimes applied fresh by way of cataplasm to scirrhus tumors and cancerous ulcers.

*Official Preparations.*

<sup>397</sup> **a. SUCCUS SPISSATUS HYOSCYAMI NIGRI, E.** Infused juice of henbane.

This is made by bruising the fresh leaves, and putting them into a hempen bag, in which they are strongly compressed till the juice is extracted. This is evaporated in flat vessels heated with boiling water, saturated with muriate of soda, till it becomes of the consistence of thick honey; and after the mass has become cold, it is put into glazed earthen vessels sprinkled with alcohol, and closely covered.

Dose from two grains to 15 or 20, on extraordinary occasions; but if these large doses occasion unpleasant effects, as headach, vertigo, vomiting, or purging, the medicine must be discontinued.

<sup>392</sup> **b. TINCTURA HYOSCYAMI NIGRI, E.** Tincture of henbane.

Made by digesting one ounce of the dried leaves of henbane in eight ounces of diluted alcohol for seven days, and straining. Dose from half a dram to a dram.

<sup>393</sup> **66. NICOTIANA TABACUM, E. NICOTIANA, L. D.** Tobacco leaves. See BOTANY, p. 137.

Besides its ordinary narcotic virtues, the smoke of tobacco thrown up the bowels by way of clyster, has proved an effectual remedy in obstinate colic.

*Official Preparation.*

<sup>394</sup> **a. VINUM NICOTIANÆ TABACI, E.** Tobacco wine.

Made by macerating one ounce of the dried leaves of tobacco in one pound of Spanish white wine for seven days, and straining the liquor.

This has been sometimes employed as a diuretic. Dose from 30 to 60 drops.

<sup>395</sup> **67. CHIRONIA CENTAURIUM, E. CENTAURIUM MINUS, L. D.** Lesser centaury.

A strong bitter, sometimes employed as a tonic in the form of an infusion of the tops.

<sup>396</sup> **68. STRYCHNOS NUX VOMICA, E.** Nux vomica. The kernel.

The taste of this kernel is extremely bitter; it has little or no smell, and is so hard, that it cannot be reduced into powder by beating.

This nut is a very powerful narcotic, inducing even death by its sedative power, as, on dissection, no marks of inflammation, or local affection, are to be discovered in the stomach.

As a narcotic, it has scarcely been used, though it has been recommended in mania, epilepsy, hysteria, &c. It has been given in dysentery and intermittent fever, in a dose of five grains twice a day; but it does not possess any superior medicinal powers\*.

<sup>69.</sup> **CAPSICUM ANNUM, E. PIPER INDICUM, L. D.** Capsicum. Indian or Cayenne pepper. See BOTANY, p. 138.

It has been given with manifest advantage in cases of gouty dyspepsia, in some hydropic affections joined with paralytic symptoms, and in the advanced and sinking stage of typhus and the malignant endemic fever of the West Indies; also in the malignant sore throat, in which it has a good effect, both when taken into the stomach, and when used as a gargle. Bergius relates, that he prescribed the seeds with success in obstinate agues. Of the dried and pulverized capsules, the dose, internally, is from one to three grains. In the advanced stage of the yellow fever, double the last mentioned quantity has been given at a time. The gargle is prepared by macerating the powder first in warm vinegar, and afterwards adding a proper quantity of hot water, and continuing the maceration for a sufficient length of time. The proportions, two drams of the capsicum to half a pound of each menstruum\*.

<sup>70</sup> **SOLANUM DULCAMARA, E. DULCAMARA, L. D.** Bitter sweet. See BOTANY, p. 138.

<sup>71.</sup> **ATROPA BELLADONNA, E. BELLADONNA, L. D.** Deadly nightshade. See BOTANY, p. 138.

The whole plant is poisonous, and the berries, from their beautiful appearance, have sometimes proved fatal to children. The symptoms excited are, a dryness of the mouth, a trembling of the tongue, a very distressing thirst, a difficulty of swallowing, fruitless efforts to vomit, and great anxiety about the præcordia. Delirium then comes on, with gnashing of the teeth, and convulsions. The pupil remains dilated, and is not sensible even to the stimulus of light. The face becomes tumid, and of a dark red colour. The jaws are frequently locked. Inflammation attacks the œsophagus, stomach, and intestines, sometimes extending to the mesentery, lungs, and liver, accompanied with violent pains in the abdomen. The stomach is very insensible to stimulus, and the peristaltic motion of the intestines is destroyed. General relaxation, palsy, especially of the lower extremities, convulsions, vertigo, blindness, coma, and death succeed. The body soon putrifies, swells, and becomes marked with livid spots; blood flows from the nose, mouth, and ears, and the stench is insufferable. On dissection the blood is found to be fluid, the intestines are inflated and inflamed, or eroded and gangrenous. The best method of cure is to excite vomiting as soon as possible, by emetics, and tickling the fauces; to evacuate the bowels by purgatives and clysters, and to give largely, vinegar, honey, milk and oil. In some children who recovered by this treatment, the delirium was succeeded by a profound sopor, accompanied with subsultus tendinum; the face and hands became pale and cold, and the pulse small, hard, and quick. Their recovery was slow, and the blindness continued a considerable time, but at last went off †.

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\* Murray's Elements, vol. i.

397 Cayenne pepper.

\* Practical Synopsis, vol. ii.

398 Bitter sweet.

399 Deadly nightshade.

† Duncan's Dispensatory.

A



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A medicine capable of producing such powerful effects, demands the utmost caution on the part of the prescriber. He should begin with the smallest doses, increasing them very gradually, to a double, triple, or quadruple quantity (in which cases the intervals between the repetitions of the doses should be proportionably lengthened) and desisting as soon as a dryness or stricture of the throat, or much diarrhoea, or great languor, with sickness and vomiting, or vertigo, and dimness of sight, come on.

It is best employed in substance, beginning with a grain for adults, and an eighth or a fourth of a grain for children.

It has been employed in a great variety of cases, as, 1. In several febrile diseases; in obstinate intermittents; and in the plague. 2. In inflammations; the gout. 3. In comatose diseases; in palsy, and loss of speech from apoplexy. 4. In spasmodic diseases; in chorea, epilepsy, chincough, hydrophobia, melancholy, and mania. 5. In cachectic affections; in dropsies, and obstinate jaundice. 6. In local diseases; in amaurosis, ophthalmia, in schirrhus, and cancer.

#### Official Preparations.

400  
Inspissated  
juice of  
deadly  
nightshade.

a. SUCCUS SPISSATUS ATROPÆ BELLADONNÆ, E. Inspissated juice of deadly nightshade.

This is made in the same way as the inspissated juice of henbane. See N<sup>o</sup> 391. Dose from one to five grains.

401  
Cinchona  
bark.

72. CINCHONA OFFICINALIS, E. CINCHONA, L. CORTEX PERUVIANUS. Cinchona bark. Peruvian bark. Jesuits bark.

The account of this valuable remedy already given under Botany, p. 133. and the article CINCHONA, has been so ample, that we shall add nothing to it in this place, but shall immediately proceed to notice the official preparations, referring our readers for further information on the simple, to Percival's essays, the Synopsis Materiæ Medicæ, the Thesaurus Medicaminum, and Dr Duncan's Dispensatory.

#### Official Preparations.

402  
Infusion of  
cinchona  
bark.

a. INFUSUM CINCHONÆ OFFICINALIS, E. Infusion of cinchona bark.

This is made by infusing an ounce of powdered cinchona bark in a pound of water for 24 hours, and filtering.

Dose from two to four ounces.

b. DECOCTUM CINCHONÆ OFFICINALIS, E. DECOCTUM CORTICIS PERUVIANI, L. D. Decoction of cinchona bark.

Prepared by boiling an ounce of powdered cinchona bark in about a pound and a half of water for 10 minutes, and straining the liquor while hot.

This is scarcely so good a preparation as the infusion. The ordinary dose is three or four ounces.

403  
Tincture of  
cinchona  
bark.

c. TINCTURA CINCHONÆ OFFICINALIS, E. TINCTURA CORTICIS PERUVIANI, L. D. Tincture of cinchona bark.

Made by digesting four or six ounces of powdered

cinchona bark in about two or two pounds and a half of diluted alcohol for seven or eight days, and straining the liquor through paper.

This is seldom given by itself, being generally added to the decoction or infusion. Dose three or four drams to an ounce.

d. TINCTURA CINCHONÆ COMPOSITA, L. D. Compound tincture of cinchona bark. Huxham's tincture of bark.

This is a very aromatic tincture of bark, made by digesting two ounces of powdered cinchona, from half an ounce to an ounce and a half of dried Seville orange peel, three drams bruised Virginian snake-root, a dram of saffron, and two scruples of powdered cochineal, in 20 ounces or two pounds of proof spirit for 14 days, and straining.

Dose two or three drams.

e. TINCTURA CINCHONÆ AMMONIATA, L. Ammoniated tincture of cinchona.

Made by digesting four ounces of powdered cinchona in two pints of compound spirit of ammonia for 10 days in a close vessel.

As a preparation of cinchona bark, this is useless, and as a stimulus it is not preferable to the compound spirit of ammonia by itself.

f. EXTRACTUM CINCHONÆ OFFICINALIS, E. Extract of cinchona bark.

This is made in the same manner as extract of jalap, see N<sup>o</sup> 387.

g. EXTRACTUM CINCHONÆ, L. Extract of bark.

The following is the process of the London college for making this extract.

Take of Peruvian bark, in coarse powder, one pound; distilled water, 12 pints. Boil for an hour or two, and pour off the liquor, which, while hot, will be red and pellucid, but, as it grows cold, will become yellow and turbid. The same quantity of water being again poured on, boil the bark as before, and repeat the boiling until the liquor, on becoming cold, remains clear. Then reduce all these liquors, mixed together and strained, to a proper thickness by evaporation. This extract must be prepared under two forms; one *soft*, and fit for making pills, and the other *hard* and pulverizable.

The Dublin college gives separate processes for making their hard and soft extract of cinchona; but they do not materially differ from the above.

All these extracts may be given in the form of pills, in a dose of from 10 to 20 grains, or by way of clyster in the quantity of a dram or two.

73. CINCHONA CARIBBÆA, E. Cinchona of the Caribbean islands.

This is a species of cinchona introduced here by Dr Wright. In medical properties it resembles the former, and may be substituted for it.

74. LOBELIA SYPHILITICA, E. Blue cardinal flower. See BOTANY, p. 133.



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Medicines.408  
Ipecacuan  
root.75. CΕΡΗΑΕΛΙΣ ΙΡΕCΑCΥΑΝΗΑ, Ε. ΙΡΕCΑCΥ-  
ΑΝΗΑ, L. D. Ipecacuan root.A pretty full account of ipecacuan has been already  
given in the article BOTANY, under *Psycotria Emetica*,  
p. 135.It appears that this drug, or something very similar  
to the common ipecacuan, is the produce of several ve-  
getables, which are enumerated by Dr Duncan in his  
Dispensatory.Ipecacuan is given as an emetic, in full doses of a  
scruple or 25 grains; as an expectorant, in doses of one  
grain, repeated every three or four hours; as a diapho-  
retic, given in combination with opium; and as anti-  
spasmodic, given from three to six grains.When properly administered, it proves serviceable in  
the following diseases, viz. in intermittent fevers, a pa-  
roxyfism of which has often been arrested by giving it as  
an emetic about an hour before the paroxyfism was ex-  
pected to come on; in continued fevers, given at the  
commencement as an emetic, and followed by a dia-  
phoretic regimen; in several inflammatory diseases, as  
rheumatifm, given as a diaphoretic; in pneumonia, ex-  
hibited to excite and keep up nausea without vomiting;  
in dysentery, in which it was formerly deemed a speci-  
fic; in exanthematous diseases, especially where the  
eruption is disposed to recede; in hemorrhages, given  
in nauseating doses; in several spasmodic affections, as  
epilepsy, asthma, dyspnoea, chincough, chronic diar-  
rhoea, hysteria; in mental alienation, as *melancholia*  
and *mania*, given in large doses; in some kinds of  
dropsy; in jaundice; in amaurofism.Ipecacuan is best exhibited in substance; but it is of-  
ten given in the form of a vinous infusion.*Official Preparations.*409  
Ipecacuan  
wine.

a. VINUM ΙΡΕCΑCΥΑΝΗÆ. Wine of ipecacuan.

This is made by digesting two ounces of bruised ipe-  
cacuan root in about two pounds of Spanish white wine,  
for about a week, and straining.This preparation being more palatable than the ipe-  
cacuan in substance, is well suited to delicate and  
squeamish patients. It may be given from an ounce to  
two ounces.410  
Powdered  
Ipecacuan  
and opium.b. PULVIS ΙΡΕCΑCΥΑΝΗÆ ET OPII, Ε. PULVIS  
ΙΡΕCΑCΥΑΝΗÆ COMPOSITUS, L. D. PUL-  
VIS DOVERI. Powder of ipecacuan and opium.  
*Compound powder of ipecacuan. Dover's powder.*This powder is prepared by triturating eight parts of  
crystallized sulphate of potash, with one part of hard  
dry opium, and one part of powdered ipecacuan, till  
they are reduced to a very fine powder.The crystallized salt in this process serves the purpose  
of reducing the opium and ipecacuan to a state of very  
minute division, and thus renders them more effectual.  
This is a valuable diaphoretic, and may be given from  
10 to 20 grains; but where a long continued sweat is  
desired to be kept up, it is better to give 10 or 15  
grains at first, and 10 or 5 grains more a few hours  
after.411  
Buckthorn.76. RHAMNUS CATHARTICUS, Ε. SPINA CER-  
VINA, L. Buckthorn. See BOTANY, p. 139.  
VOL. XII. Part II.*Official Preparation.*a. SYRUPUS RHAMNI CATHARTICI, Ε. SYRUPUS  
SPINÆ CERVINÆ, L. Syrup of buckthorn.The Edinburgh college directs this to be made with  
two parts of the depurated juice of ripe buckthorn  
berries, and one part of double refined sugar, boiled to  
the consistence of a syrup. The London process is  
more complex. It directs a gallon of the fresh juice of  
ripe buckthorn berries, an ounce of bruised ginger, an  
ounce and a half of powdered pimento, and seven  
pounds of double refined sugar. The juice is to be set  
aside for three days, and then strained from the fæces.  
The ginger and pimento are to be macerated for four  
hours in a pint of the strained liquor. In the mean  
time the rest of the juice is to be boiled down to three  
pints; then the sugar and the pint of juice in which the  
spices had been macerated, are to be added, and the  
whole boiled to the consistence of a syrup.This syrup is a good cathartic, but is seldom given  
alone, except to children. Dose from six drams to an  
ounce and a half.

77. VITIS VINIFERA, Ε. The vine.

The remedies drawn from the vine are wine, grapes,  
and supertartrate of potash.The properties of wine as a stimulant and cordial,  
have been already mentioned. See N<sup>o</sup> 100. The wines  
usually employed in medicine are,Vinum album hispanum, *white Spanish wine.*Vinum album rhenanum, *Rhenish wine.*Vinum rubrum lusitanum, *red Port wine.*The last, besides the stimulating power common to  
all wines, possesses much astringency, and is therefore  
better suited to cases of debility.

78. UVÆ PASSÆ. Raisins.

These are chiefly employed as emollients and demul-  
cents.79. SUPERTARTRAS POTASSÆ. SUPERTARTRIS  
POTASSÆ. TARTARI CRYSTALLI, L. D. CREAMOR  
TARTARI. Supertartrate of potash.  
*Cream of tartar. Cream of tartar.*

For the chemical nature of this salt, see CHEMISTRY.

This salt is employed in medicine chiefly as a gentle  
laxative and refrigerant. As a laxative, it may be  
given in the dose of from two drams to half an ounce,  
mixed with syrup or honey, or dissolved in a large  
quantity of barley water. In the latter way it has  
been found a good diuretic in dropsies. As a refrigerant,  
it is given in a diluted solution, sweetened with su-  
gar, or some pleasant syrup.*Official Preparations.*a. TARTRAS POTASSÆ. TARTRIS POTASSÆ, Ε. TARTARATE  
KALI TARTARISATUM, L. ALKALI VE-  
GETABILE TARTARISATUM, D. Tartrate of  
potash. *Tartarified kali. Tartarified vegetable alkali.*  
*Soluble tartar.*This salt is prepared by adding to a solution of su-  
pertartrate of potash, a sufficient quantity of sub-carbo-  
nateHistory of  
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Medicines.412  
Syrup of  
buckthorn.413  
Wine.414  
Raisins.415  
Supertar-  
trate of  
potash.

416

Tartarate of  
potash.



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nate of potash, to neutralize the excess of tartaric acid. For this purpose it usually requires about one part of the alkaline carbonate to three parts of supertartrate of potash. After neutralization, the liquor is filtered, and set by to crystallize.

This salt forms an excellent cooling purgative, and may be given in doses of from half an ounce to an ounce. It forms a good addition to rhubarb.

417  
Tartrate of  
potash and  
soda.

*b.* TARTRAS POTASSÆ ET SODÆ. TARTRIS POTASSÆ ET SODÆ, E. NATRON TARTARISATUM, L. SAL RUPELLENSIS, D. Tartrate of potash and soda. *Tartarised natron. Rochelle salt.*

Prepared by adding to a solution of supertartrate of potash, a sufficient quantity of carbonate of soda, to neutralize the excess of tartaric acid, filtering the liquor, and crystallizing.

This triple salt is a more agreeable laxative than the former, but is not so strong. Usual dose from one to two ounces.

418  
Purest sub-  
carbonate  
of potash.

*c.* SUBCARBONAS POTASSÆ PURISSIMUS. CARBONAS POTASSÆ PURISSIMUS, E. SAL TARTARI. Purest subcarbonate of potash. *Salt of tartar.*

Prepared by burning all the tartaric acid from *tartar*, solution in water, filtration and crystallization.— Similar in its uses with N° 313. which see.

419  
Sweet vio-  
let.

80. VIOLA ODORATA, E. VIOLA, L. D. Sweet violet. See BOTANY, p. 141.

*Official Preparations.*

420  
Syrup of  
violets.

*a.* SYRUPUS VIOLÆ ODORATÆ, E. SYRUPUS VIOLÆ, L. D. Syrup of violets.

Made by macerating one pound or two pounds (L. D.) of the fresh petals of violets, in four pounds or five pints (L.) or six pounds (D.) of boiling water for 24 hours, straining the liquor without expression, and boiling it with a sufficient quantity of double refined sugar, to make a syrup.

A gentle laxative for young children.

421  
Red cur-  
rants.

81. RIBES RUBRUM. Red currants.

The fruit of red currants is used as a refrigerant in febrile affections.

422  
Black cur-  
rants.

82. RIBES NIGRUM. Black currants.

Also employed as a refrigerant; and the following preparations form a good domestic palliative in inflammatory affections of the throat, and in tickling coughs.

*Official Preparations.*

423  
Inspissated  
juice of  
black cur-  
rants.

*a.* SUCCUS SPISSATUS RIBIS NIGRI. Inspissated juice of black currants.

This is made by expressing and clarifying the juice of ripe black currants, and then evaporating it in a bath of water with muriate of soda, to a proper consistence.

424  
Syrup of  
black cur-  
rants.

*b.* SYRUPUS RIBIS NIGRI. Syrup of black currants.

Prepared by boiling the deperated juice of black currants with a sufficient quantity of sugar to make a syrup.

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Order 2. DIGYNIA.

83. GENTIANA LUTEA, E. GENTIANA, L. D. Gentian root.

425  
Gentian.

The root of gentian is moderately long, slender, branched, brownish on the outside, of a reddish yellow or gold colour within. It is perennial, a native of the mountainous parts of Germany, &c. whence the shops are generally supplied with the dried roots.

Among the gentian brought to London, some years ago, a root of a different kind was mixed, the use of which occasioned violent disorders, and in some instances, as is said, proved fatal. This root is externally of a paler colour than gentian, and its longitudinal wrinkles finer and closer; on cutting the two roots, the difference is more remarkable, the poisonous root being white, without any degree of the yellow tinge which is deep in gentian, nor is its taste bitter, like that of gentian, but mucilaginous.

Gentian root is a strong flavourless bitter; in taste less exceptionable than most of the other common strong bitters, and hence among us most generally made use of. The flavour and aromatic warmth wanting to render it grateful, and acceptable to the stomach, are supplied by additions.

The root of this plant is a valuable substance, very successfully and very generally employed as a stomachic and strengthening medicine. It is particularly useful in various chronic affections connected with debility, such as dyspepsia, diarrhoea, hysteria, chlorosis, dropsy. It has also been given with good effect in intermittent fevers, joined with the peruvian bark; and in convalescencies from all fevers. In these and other cases it is combined with aromatics and chalybeates; sometimes with acids; at other times with alkaline salts, especially in dyspeptic and chlorotic affections, as also in certain disorders of the bowels; with absorbents and aromatics in cases of gout.

The use of this bitter, like that of many others, must not, however, be carried too far, as by weakening the energy of the nervous system, it predisposes to palsy and apoplexy.

*Official Preparations.*

*a.* INFUSUM GENTIANÆ COMPOSITUM, E. L. D. Compound infusion of gentian. *Bitter infusion.*

426  
Compound  
infusion of  
gentian.

The Edinburgh infusion is made by steeping half an ounce of sliced gentian root, one dram dried peel of Seville oranges, half a dram of coriander seeds bruised, first in four ounces of diluted alcohol for three hours, and then adding one pound of water; macerating without heat for twelve hours, and then straining.

This infusion, according to the London Pharmacopœia, is made by macerating for an hour in boiling water, twelve ounces by measure, one dram of sliced gentian root; one dram and a half dried orange peel, half an ounce of fresh outer rind of lemons. The Dublin formula directs two drams of bruised gentian root, half an ounce fresh outer rind of lemons, one dram and



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a half of dry orange peel, four ounces of diluted alcohol, and twelve ounces of boiling water; and the infusion is to be made first by alcohol and afterwards with the addition of water, nearly as in the Edinburgh process.

These infusions form a good tonic remedy in debility of the alimentary canal. A glass of them may be given twice or thrice a day, either alone, or with the addition of some aromatic tonic tincture.

427  
Compound  
tincture of  
gentian.

b. TINCTURA GENTIANÆ COMPOSITA, E. L. TINCTURA AMARA. ELIXIR STOMACHICUM. Compound tincture of gentian. *Bitter tincture. Stomachic elixir.*

The Edinburgh tincture is prepared by macerating two ounces of sliced and bruised gentian root, an ounce of dried and bruised Seville orange peel, half an ounce of bruised canella alba, and half a dram of powdered cochineal, in two pounds and a half of diluted alcohol for seven days. The tincture of the London college is made with two ounces of sliced and bruised gentian, one ounce of dried orange peel, half an ounce lesser cardamom seeds, husked and bruised, digested for eight days in two pints of proof spirit.

These tinctures are seldom given alone, but may be administered in a dose of two or three drams in a glass of water.

428  
Compound  
wine of  
gentian.

c. VINUM GENTIANÆ COMPOSITUM, E. VINUM AMARUM. Compound wine of gentian. *Bitter wine.*

Prepared of half an ounce of gentian root, one ounce of cinchona bark, two drams of Seville dried orange peel, one dram of canella alba, four ounces diluted alcohol, two pounds and a half of Spanish white wine. The diluted alcohol is first poured on the root and bark sliced and bruised, and after 24 hours adding the wine, then macerating for seven days and straining. Dose from two drams to half an ounce.

429  
Extract of  
gentian.

d. EXTRACTUM GENTIANÆ LUTÆ, E. EXTRACTUM GENTIANÆ, L. D. Extract of gentian.

This is made by evaporating the saturated and strained decoction of the root to a consistence fit for being made into pills, under which form it is frequently prescribed in all those cases in which the infusion and tincture are employed. Dose of this extract from ten grains to half a dram. It is seldom given alone, but generally in combination with aromatic and aloeic powders, with myrrh, sulphurate of iron, &c.

430  
Elm bark.

84. ULMUS CAMPESTRIS, E. ULMUS, L. D. Elm bark.

The inner bark of the elm is frequently employed in cutaneous eruptions, as an alterative, or gentle diaphoretic, in the form of decoction.

*Official Preparation.*

431  
Decoction  
of elm  
bark.

a. DECOCTUM ULMI, L. Decoction of elm bark.

Made by boiling four ounces of the fresh inner bark of elm bruised, in four pints of water to two, and straining. Dose about four ounces, repeated several times a-day.

This medicine probably does not deserve the reputation it has acquired.

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85. ERYNGIUM MARITIMUM. ERYNGIUM, L. <sup>432</sup> Eryngo root. D. Eryngo root. See BOTANY, p. 144.

86. DAUCUS CAROTA, E. DAUCUS SYLVES- <sup>433</sup> TRIS, L. D. Wild carrot seed. Carrot.

The seeds are sometimes employed as a carminative, and have been recommended as a diuretic. They are seldom used.

The grated roots of cultivated carrot are frequently applied as a poultice to cancerous and ill-conditioned ulcers.

87. CONIUM MACULATUM, E. CICUTA, L. D. <sup>434</sup> Hemlock. See BOTANY, p. 145. Hemlock.

Hemlock has been employed chiefly in serophulous and cancerous disorders, both internally and externally, and in many of these cases, with considerable benefit; in other instances, without any sensible relief, even after being continued for a great length of time. Like most proposers of new remedies, *Stoerck* has been too profuse in his encomiums on hemlock. It has been found useful in chronic rheumatism, and some cases of gout, where opium disagreed, and in that acutely painful complaint termed *tic doloureux*; as also in caries of the bones and bad venereal ulcerations. Dr *Butter* prescribed it with marked success in the whooping-cough; and being less stimulant than opium, and less liable to check expectoration, it generally answers better than the inspissated juice of the poppy, in cases of phthisis pulmonalis. The dried leaves may be given alone in doses of five to 15 grains. With the inspissated juice and powder are joined, according to the nature of the disorder in which they are given, calomel, guaiacum, ammoniacum, &c. In the administration of this, as of all other narcotic medicines, it is proper to begin with the smallest doses, afterwards gradually increasing them to as much as the patients can well bear. In this manner many instances are recorded where astonishing quantities of hemlock have been taken, in cancerous and other painful disorders, without disturbing the constitution. It is a sign that the medicine has been pushed to its utmost length, when it disorders the head, stomach, or bowels. For external use, fomentations, cataplasms, and plasters, are prepared from this vegetable\*.

*Official Preparation.*

a. SUCCUS SPISSATUS CONII MACULATI, E. SUC- <sup>435</sup> CUS SPISSATUS CICUTÆ, D. Inspissated juice of hemlock. Inspissated juice of hemlocks.

This is made by expressing hemlock which is gathered when the flowers are beginning to appear, and allowing the juice to stand six hours until the feces subside, then reducing the decanted juice to dryness in a water bath.

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This extract may be given in a dose of two grains, increasing it gradually as long as seems prudent.

436  
Creeping  
skirret.

88. SIUM NODIFLORUM. SIUM, L. Creeping skirret.

Formerly employed as an emmenagogue and lithon-  
triptic, but now seldom used.

437  
Cummin  
seeds.

89. CUMINUM CYMINUM. CUMINUM, L. Cum-  
min seed. See BOTANY, p. 146.

*Official Preparations.*

438  
Cataplasin  
of cummin.

a. CATAPLASMA CUMINI, L. Cataplasin of cum-  
min seed.

This is made of cummin seed one pound; of bay ber-  
ries, dried leaves of water germander, virginian snake-  
root, each three ounces; cloves one ounce; rubbed to-  
gether into a powder, and formed into a cataplasin with  
three times their weight of honey.

439  
Cummin  
plaster.

b. EMPLASTRUM CUMINI, L. Cummin plaster.

This is composed of cummin seeds, caraway seeds,  
bay berries, each three ounces; Burgundy pitch three  
pounds, and yellow wax three ounces. The pitch and  
wax are first melted together, and the other ingredients  
in fine powder mixed with them.

Both these preparations are intended for external ap-  
plication to the belly, in some disorders of the stomach  
and bowels, which require such a stimulus.

440  
Asafœtida.

90. FERULA ASAFOETIDA, E. ASAFŒTIDA,  
L. D. Asafœtida. See BOTANY, p. 145. and CHE-  
MISTRY, N° 2490.

*Official Preparations.*

441  
Purified  
asafœtida.

a. ASAFOETIDA PURIFICATA. Purified asafœtida.

Asafœtida is purified in the same manner as gum am-  
moniac.

442  
Emulsion of  
asafœtida.

b. LAC ASAFOETIDÆ, L. Emulsion of asafœtida.

This is made in the same manner as the emulsion of  
gum ammoniac (See N° 326.), and is given in similar  
doses.

443  
Tincture of  
asafœtida.

c. TINCTURA FERULÆ ASAFOETIDÆ, E. TINC-  
TURA ASAFOETIDÆ, L. D. Tincture of asafœ-  
tida.

This tincture is prepared by digesting four ounces of  
asafœtida in two pounds and a half (E), or two pounds  
(D), or two pints (L), of rectified spirit of wine, for  
about a week.

This is a good preparation of asafœtida, and may be  
given in doses of from 20 to 60 drops.

444  
Compound  
pills or asa-  
fœtida.

d. PILULÆ ASAFOETIDÆ COMPOSITÆ, E. Com-  
pound asafœtida pills.

Made by beating together asafœtida, galbanum, and  
myrrh, of each eight parts, and one part of rectified oil  
of amber, into a mass with simple syrup. Dose 15  
grains, or a scruple, three or four times a-day. Chiefly  
in hysteria.

e. EMPLASTRUM ASAFOETIDÆ, E. Plaster of asa-  
fœtida.

Made by melting together plaster of semivitrified  
oxide of lead, asafœtida, of each two parts, and galba-  
num and yellow wax, of each one part.

Applied to the belly in hysteria.

91. BUBON GALBANUM, E. GALBANUM, L. D. Galbanum,  
Galbanum. See CHEMISTRY, N° 2494.

Galbanum is employed in similar cases as asafœtida.  
It is seldom given alone.

*Official Preparations.*

a. GALBANUM PURIFICATUM. Strained galbanum. Purified  
galbanum.

Galbanum is purified by melting it, inclosed in a blad-  
der, by the heat of boiling water, and straining it  
through linen.

b. TINCTURA GALBANI, L. Tincture of galbanum. Tincture of  
galbanum.

This is made by digesting two ounces of galbanum,  
cut into small pieces, in two pints of proof spirit, for  
eight days, with a gentle heat, and straining. Dose from  
one to two drams.

c. PILULÆ GALBANI COMPOSITÆ, L. Compound  
galbanum pills.

Prepared of opoponax, myrrh, sagapenum, of each  
an ounce, asafœtida half an ounce.

Similar to the asafœtida pills, and given in similar  
doses.

92. ANGELICA ARCHANGELICA, E. ANGELI-  
CA, L. D. Angelica.

An elegant aromatic, but seldom employed.

93. CORIANDRUM SATIVUM, E. CORIANDRUM,  
Coriander seeds. See BOTANY, p. 147.

94. CARUM CARUI, E. CARUON, L. CARUI,  
D. Carraway seeds. See BOTANY, p. 147.

*Official Preparations.*

a. OLEUM VOLATILE CARI CARUI, E. OL. CA-  
RUI, L. D. Volatile oil of carraway.

Prepared by distillation in the same manner as the oil  
of rosemary. A very warm stimulant. Dose two or  
three drops.

b. SPIRITUS CARI CARUI, E. SPIRITUS CARUI,  
L. D. Spirit of carraway.

Prepared by macerating half a pound of bruised car-  
raway seeds in eight or nine pounds of proof spirit  
for a day or two, and then with the addition of a suf-  
ficient quantity of water to prevent burning, distilling  
off the spirit.

A good dram, where drams are required, as in flatu-  
lent colic. Dose half an ounce to an ounce.

95. PASTINACA OPOPONAX. OPOPONAX, L. Opoponax.

One of the gum-resins, brought from the East Indies  
and the Levant. It possesses properties similar to those  
of

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445  
Plaster of  
asafœtidæ.

446  
Galbanum.

447  
Purified  
galbanum.

448  
Tincture of  
galbanum.

449  
Compound  
galbanum  
pills.

450  
Angelica.

451  
Coriander  
seeds.

452  
Carraway  
seeds.

453  
Oil of car-  
raway.

454  
Spirit of  
carraway.

455  
Opoponax.



History of Simple and Official Medicines. of galbanum and asafoetida, and is usually employed in combination with them.

<sup>456</sup> Dill seed. 96. ANETHUM GRAVEOLENS, L. Dill-feed. This seed is of a nearly oval shape, convex on one side and flat on the other, of a yellowish colour, of a warm pungent taste, and aromatic smell. Employed sometimes as a carminative.

*Official Preparation.*

<sup>457</sup> Water of dill. a. AQUA DISTILLATA ANETHI, L. Dill water. A gallon of water distilled from a pound of bruised dill seeds.

<sup>458</sup> Sweet fennel seed. 97. ANETHUM FOENICULUM, E. FOENICULUM, L. D. Sweet fennel seeds. See BOTANY, p. 147.

*Official Preparations.*

<sup>459</sup> Water of sweet fennel. a. AQUA DISTILLATA FOENICULI DULCIS, L. D. Sweet fennel water. Prepared as *dill water*.

<sup>460</sup> Oil of fennel. b. OLEUM VOLATILE FOENICULI DULCIS, D. Oil of sweet fennel seeds. Prepared as the *oil of rosemary*, &c.

<sup>461</sup> Parsley. 98. APIUM PETROSELINUM, E. PETROSELINUM, L. Parsley. The seeds of parsley are carminative, and the root is gently diuretic.

<sup>462</sup> Aniseed. 99. PIMPINELLA ANISUM, E. ANISUM, L. D. Aniseeds.

This plant is cultivated in Asia, and in the south of Europe. The seeds have a peculiar grateful smell, and a sweet aromatic taste.

They are gently stimulant, carminative and expectorant.

*Official Preparations.*

<sup>463</sup> Oil of aniseed. a. OLEUM VOLATILE PIMPINELLÆ ANISI, E. OLEUM VOLATILE ANISI, L. D. Volatile oil of aniseed.

Prepared as the other volatile oils.

This oil freezes at no very low temperature. It is a powerful and grateful stimulant. Dose, a drop or two.

<sup>464</sup> Compound spirit of aniseed. b. SPIRITUS ANISI COMPOSITUS, L. Compound spirit of aniseed.

From aniseed and angelica seed, of each half a pound, proof spirit a gallon, and enough water to prevent burning, a gallon of spirit is distilled.

A very agreeable cordial, in cases of flatulence.

Order 3. TRIGYNIA.

<sup>465</sup> Elder. 109. SAMBUCUS NIGRA, E. SAMBUCUS, L. D. Elder leaves, bark, and berries. See BOTANY, p. 148.

*Official Preparations.*

a. SUCCUS SPISSATUS BACCÆ SAMBUCCI, L. D. Infused juice of elder leaves.

Prepared in the same way as the juice of black currants. See N<sup>o</sup> 422.

b. UNGUENTUM SAMBUCCI, L. UNG. SAMBUCCINUM, D. Elder ointment.

Prepared by boiling four pounds of elder flowers in three pounds of mutton suet and a pint of olive-oil till they are crisp, and then straining.

101. RHUS TOXICODENDRON, E. Poison oak. <sup>463</sup> Poison oak.

The leaves of this shrub, which is a native of North America, are very acrid, and have lately been introduced into practice by Dr Alderson of Hull as a remedy for palsy. Dose half a grain or a grain. In Edinburgh it has been less successful than with Dr Alderson. See Alderson's "Essay on the Rhus Toxicodendron," and Duncan's Dispensatory.

102. LINUM USITATISSIMUM, E. LINUM, L. D. Common flax. Lintseed. See BOTANY, p. 149.

*Official Preparations.*

a. OLEUM LINI USITATISSIMI, E. Lintseed oil. <sup>470</sup> Lintseed oil.

Expressed from the seeds by inclosing them in a hempen bag after beating them in a stone mortar. It should be expressed without heat.

Emollient. Has been given with success in some cases of hæmoptysis, nephritis, colic, and some internal inflammations. Dose an ounce or two, made into an emulsion.

103. LINUM CATHARTICUM, D. Purging flax. See <sup>471</sup> Purging flax. BOTANY, p. 149.

CLASS VI. HEXANDRIA. Order 1. MONOGYNIA.

104. BERBERIS VULGARIS, BERBERIS, D. Barberry. <sup>472</sup> Barberry.

The fruit is employed as a refrigerant. See BOTANY, p. 159.

105. ALLIUM SATIVUM, E. L. D. Garlic. See <sup>473</sup> Garlic. BOTANY, p. 156, where a long account is given of its nature and uses.

*Official Preparations.*

a. SYRUPUS ALLII, D. Syrup of garlic. <sup>474</sup> Syrup of garlic.

Prepared by macerating a pound of sliced garlic in two pounds of boiling water in a close vessel for 12 hours, and then adding to the strained liquor four pounds of double refined sugar.

106. ALLIUM CEPA, CEPA, D. Onion. <sup>475</sup> Onion.

A gentle diuretic when raw, but chiefly used roasted by way of a cataplasm.

107. ALOE PERFOLIATA, E. ALOE SOCOTRINA, L. D. Aloes. <sup>476</sup> Aloes.

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<sup>466</sup> Infused juice of elder.

<sup>467</sup> Elder ointment.

<sup>463</sup> Poison oak.

<sup>469</sup> Lintseed.

<sup>470</sup> Lintseed oil.

<sup>471</sup> Purging flax.

<sup>472</sup> Barberry.

<sup>473</sup> Garlic.

<sup>474</sup> Syrup of garlic.

<sup>475</sup> Onion.

<sup>476</sup> Aloes.



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So full an account of the several varieties of aloes and their uses in medicine has been given under BOTANY, p. 158, that it is necessary for us here only to notice its

A powerful purgative, well suited to melancholia and similar diseases. Dose 10 to 20 grains.

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*Official Preparations.*

477  
Powder of  
aloes with  
canella.

a. PULVIS ALOES CUM CANELLA, L. HIERA PICRA. Powder of aloes with canella.

Prepared of a pound of focotorine aloes, and three pounds of white canella, powdered separately and then mixed together.

A warm stimulant cathartic. Dose 10 grains to 20. Best given in the form of pill.

478  
Aloetic  
powder  
with guaiacum.

b. PULVIS ALOETICUS CUM GUAIACO, L. Aloetic powder with guaiacum.

Prepared by mixing together an ounce and a half of powdered focotorine aloes, an ounce of powdered resin of guaiacum, and half an ounce of aromatic powder. Dose as of the preceding.

479  
Aloetic  
powder  
with iron.

c. PULVIS ALOETICUS CUM FERRO, L. Aloetic powder with iron.

Prepared of focotorine aloes, an ounce and half, myrrh two ounces, dry extract of gentian and vitriolated iron, each an ounce, powdered separately, and mixed together.

This is considered as a good emmenagogue in a dose of 15 grains.

480  
Aloetic  
pills.

d. PILULÆ ALOETICÆ, E. D. PILULÆ ALOES COMPOSITÆ, L. Aloetic pills. *Compound pills of aloes.*

The Edinburgh aloetic pills are prepared by beating together into a mass equal parts of powdered aloes and soap. Those of the London college are made of an ounce of powdered focotorine aloes, half an ounce of extract of gentian, two scruples of oil of carraway seeds, and enough syrup of ginger to form a mass. The Dublin pills are made of an ounce of Barbadoes aloes, with half an ounce of extract of gentian, and two drams of powdered ginger, formed into a mass with soap jelly.

Any of these compositions forms a good cathartic for sedentary people. Dose 10 to 20 grains.

481  
Pills of  
aloes and  
asafoetida.

e. PILULÆ ALOES ET ASAFOETIDÆ, E. Pills of aloes and asafoetida.

Prepared with equal parts of powdered aloes, asafoetida and soap, made into a mass with mucilage of gum arabic.

A good remedy in dyspepsia, especially in females. Dose about 10 grains, twice a day.

482  
Pills of  
aloes and  
colocynth.

f. PILULÆ ALOES CUM COLOCYNTHIDE, E. Pills of aloes with colocynth.

These are formed of focotorine aloes, scammony, each eight parts, colocynth four parts, oil of cloves and sulphate of potash with sulphur, each one part. The aloes, scammony, and salt, are together reduced to powder, and mixed with the colocynth previously beat to a fine powder; then the oil is added, and the mass formed with mucilage of gum arabic.

g. PILULÆ ALOES ET MYRRHÆ, E. L. PILULÆ RUFÆ. Pills of aloes and myrrh. *Rufus's pills.*

Prepared of four parts of focotorine aloes, two parts of myrrh, and two parts of saffron (one part L.), made into a mass with syrup of saffron.

A good laxative and stomachic. Dose 15 or 20 grains.

b. EXTRACTUM ALOES, C. Extract of aloes.

Prepared as *extract of gentian.*

i. TINCTURA ALOES SOCOTORINÆ, E. TINCTURA ALOES, L. D. Tincture of aloes.

Made by digesting half an ounce of powdered focotorine aloes and an ounce and a half of extract of liquorice, in four ounces of alcohol and a pound of distilled water (E.), or in eight ounces of proof spirit with the same quantity of distilled water (L.), for a few days, with a gentle heat and frequent agitation. Dose about an ounce.

k. TINCTURA ALOES ET MYRRHÆ, E. TINCTURA ALOES COMPOSITA, L. Tincture of aloes and myrrh. *Compound tincture of aloes.*

This tincture, according to the Edinburgh process, is prepared by first digesting two ounces of powdered myrrh in a pound and a half of alcohol mixed with half a pound of water, for four days; then adding an ounce and a half of powdered focotorine aloes, and an ounce of saffron; digesting for three days longer, and pouring off the tincture. The London tincture is made by digesting three ounces of focotorine aloes and the same quantity of saffron, in two pints of tincture of myrrh, for eight days, and straining it.

These tinctures differ in strength: the Edinburgh tincture may be given in a dose of half an ounce or six drams; the London one in half that quantity.

l. TINCTURA ALOES ÆTHEREA, E. Etherial tincture of aloes.

This tincture is prepared by digesting focotorine aloes, and myrrh powdered, of each an ounce and a half, with an ounce of sliced saffron, in a pound of sulphuric ether with alcohol; first digesting the myrrh alone for four days, then adding the rest, digesting for four days longer, and straining.

More stimulating than the other tinctures. Dose two or three drams.

m. VINUM ALOES SOCOTORINÆ, E. VINUM ALOETICUM, D. VINUM ALOES, L. Wine of focotorine aloes. *Aloetic wine. Sacred elixir.*

The Edinburgh wine is prepared by digesting an ounce of powdered focotorine aloes, and lesser cardamom seed, and ginger bruised, of each a dram, in two pounds of Spanish white wine, for seven days, with occasional agitation and straining. The Dublin college directs four ounces of powdered focotorine aloes, and two ounces of powdered canella alba, in four pounds of Spanish white wine for fourteen days, with frequent agitation and then filtering. In the London process, the proportions are, eight ounces of powdered aloes,



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two ounces of powdered canella, six pints of Spanish white wine, and two pints of proof spirit.

This appears from long experience to be a medicine of excellent service. The dose as a purgative is from one to two ounces. It may be introduced into the habit, so as to be productive of excellent effects, as an alterant, by giving it in small doses, at proper intervals: thus managed, it does not for a considerable time operate remarkably by stool; but at length proves purgative, and occasions a lax habit of much longer continuance than that produced by other common cathartics.

d. OXYMEL SCILLÆ, L. Oxymel of squill.

Prepared by boiling three pounds of clarified honey, with two pints of vinegar of squill, in a glass vessel, with a gentle heat, to the consistence of a syrup.

This is not so good a preparation as the syrup of squill, and is very apt to produce sickness. Dose three or four drams.

e. CONSERVA SCILLÆ, L. Conserve of squill.

This is made by beating together in a mortar, an ounce of fresh squill and five ounces of double refined sugar.

A very injudicious and nauseous preparation.

f. TINCTURA SCILLÆ, L. D. Tincture of squill.

This tincture is prepared by digesting four ounces of fresh dried squill, in two pints, or two pounds of proof spirit, for seven or eight days, and pouring off the clear liquor.

This is a good preparation of squill, especially when it is intended as a diuretic; dose twenty or thirty drops.

g. MEL SCILLÆ, L. MEL SCILLITICUM, D. Honey of squill.

Prepared by boiling together in a glass vessel, three pounds of clarified honey and two pints of the tincture of squill, to the consistence of a syrup. Dose, a dram or two.

h. PILULÆ SCILLÆ, L. PILULÆ SCILLITICÆ, E. D. Squill pills.

These, according to the London and Dublin colleges, are to be prepared by beating together a dram of fresh dried squill reduced to powder, three drams of powdered ginger, three drams of soap, and two drams of gum ammoniac, with a sufficient quantity of syrup of ginger, or jelly of soap, to form a mass fit for making pills. In the Edinburgh process a scruple of dried squill, in fine powder, a dram of gum ammoniac, a dram of powdered lesser cardamom seeds, and a dram of extracted liquorice, are beaten into a mass, with simple syrup.

This is a good form of squill, when intended as an expectorant. Dose from 10 to 15 grains.

109. LILIUM CANDIDUM, LILIUM ALBUM, D. White lily. White lily root. See BOTANY, p. 156.

110. ACORUS CALAMUS, E. CALAMUS AROMATICUS, L. Sweet flag. See BOTANY, p. 159.

Order III. TRICYNIA.

111. COLCHICUM AUTUMNALE, E. COLCHICUM, L. D. Colchicum, or meadow saffron. See BOTANY, p. 161.

Official Preparations.

a. SYRUPUS COLCHICI AUTUMNALIS, E. Syrup of colchicum.

Prepared by first macerating an ounce of fresh colchicum root, cut into thin slices, in 16 ounces of vinegar,

489 Squill.

108. SCILLA MARITIMA, E. SCILLA, L. D. Squill. See BOTANY Index.

When the root of squill is taken in large doses, it produces a violent vomiting and purging, and some times strangury, bloody urine, and inflammation and erosion of the stomach or bowels; in moderate doses it proves emetic, without any further consequence, and in small doses, it is a good expectorant and diuretic. It is chiefly employed as an expectorant in asthma and pleurisy, and as a diuretic in dropsy.

Official Preparations.

a. SCILLA MARITIMA EXSICCATA, E. SCILLA EXSICCATA, L. SCILLÆ PRÆPARATÆ, D. Dried squill.

Squill is dried by first removing its outer coat, then cutting it transversely into thin slices, and drying these with a gentle heat.

The sign of its being properly dried is that it be rendered friable without losing its bitterness and acrimony. This is an excellent mode of preparing squill, where it is to be given in substance. The dose of dried squill when reduced to powder and given as an expectorant or diuretic, is from one grain to three.

490 Dried Squill.

491 Vinegar of Squill.

b. ACETUM SCILLÆ MARITIMÆ, E. ACETUM SCILLÆ, L. ACETUM SCILLITICUM, D. Vinegar of squill.

This is made by macerating dried squill in vinegar or distilled vinegar, with a proportion of proof spirit. The proportions of the different colleges vary. The Edinburgh college directs two ounces of squill to two pounds and a half of distilled acetic acid, and three ounces of alcohol; that of London a pound of squill, six pints of vinegar, and half a pint of proof spirit; while the Dublin proportions are half a pound of squill, three pounds of vinegar, and four ounces of proof spirit. The squill is first macerated with the vinegar for some days with a gentle heat, then the liquor is expressed, and the spirit added to it. Dose from two drams to half an ounce, chiefly in composition.

492 Syrup of Squill.

c. SYRUPUS SCILLÆ MARITIMÆ, E. Syrup of squill.

This syrup is made with two pounds of vinegar of squill, and three pounds and a half of double refined sugar, dissolved with a gentle heat.

A good expectorant. Dose from half an ounce to an ounce.

493 Oxymel of squill.

494 Conserve of squill.

495 Tincture of squill.

496 Honey of squill.

497 Squill pills.

498 White lily.

499 Calamus aromaticus.

500 Colchicum.

501 Syrup of colchicum.



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gar, for two days, with occasional agitation, and then boiling the expressed liquor with 26 ounces of double refined sugar into a syrup.

Employed as a diuretic, in a dose of from a dram to an ounce or more.

502  
Oxymel of  
colchicum.

b. OXYMEL COLCHICI, L. Oxymel of colchicum.

This is made in the same manner as the syrup, only that two pounds of clarified honey are used instead of sugar to the pint of vinegar of colchicum. It is given in similar doses with the former.

503  
Sorrel.

112. RUMEX ACETOSA, E. ACETOSA PRATENSIS, L. ACETOSA, D. Sorrel. See BOTANY, p. 160.

CLASS VII. HEPTANDRIA. Order I. MONOGYNIA.

504  
Horse chefnut.

113. ÆSCULUS HIPPOCASTANUM, E. HIPPOCASTANUM. Horse-chefnut bark and fruit.

The bark of horse chefnut is a powerful astringent, and has lately been recommended as a substitute for cinchona. It is certainly a good tonic, and may be given in powder from half a dram to a dram; or a dram of the extract of it may be mixed with an ounce of cinnamon water, and given in the dose of a tea spoonful three or four times a-day. A strong infusion of it, snuffed up the nose, has long been employed as an errhine.

CLASS VIII. OCTANDRIA. Order I. MONOGYNIA.

505  
Elemi.

114. AMYRIS ELEMIFERA. ELEMI, L. Resin of elemi. See BOTANY, p. 166.; and CHEMISTRY, N° 2471.

*Official Preparations.*

506  
Elemi ointment.

a. UNGUENTUM ELEMI, D. UNG. ELEMI COMPOSITUM, L. Elemi ointment.

Prepared by first melting a pound of elemi with two pounds of mutton suet, and on removing them from the fire, immediately adding 10 ounces of turpentine, and two ounces of olive oil, and straining the mixture.

A stimulating ointment, in much reputation with some surgeons for cleansing ulcers.

507  
Balm of Gilead.

115. AMYRIS GILEADENSIS, E. BALSAMUM GILEADENSE. Balm or balm of Gilead. See BOTANY, p. 166.

508  
Mezereon.

116. DAPHNE MEZEREUM, E. MEZEREUM, L. MEZEREON, D. Mezereon or *spurge laurel*. See BOTANY, p. 168.

*Official Preparations.*

509  
Decoction of mezereon.

a. DECOCTUM DAPHNES MEZEREI, E. Decoction of mezereon.

Prepared by boiling with a gentle heat two drams of the bark of mezereon root, and half an ounce of bruised liquorice root, in three pounds of water to two pounds.

Much recommended as a diaphoretic and stimulant, in rheumatic affections and in cutaneous eruptions. Dose from four to eight ounces twice a-day.

117. POLYGONUM BISTORTA, E. BISTORTA, L. D. Great bitort or *snakeweed*. See BOTANY, p. 168.

CLASS IX. ENNEANDRIA. Order I. MONOGYNIA.

118. LAURUS CINNAMOMUM, E. CINNAMOMUM, L. D. Cinnamon. *The bark and its essential oil*. See BOTANY, p. 170. and 174. See also the article CEYLON.

*Official Preparations.*

a. AQUA LAURI CINNAMOMI, E. AQUA CINNAMOMI, L. D. Cinnamon water. *Barley cinnamon*.

A gallon of water distilled from a pound of bruised cinnamon.

An excellent cordial in a dose of two ounces.

b. SPIRITUS LAURI CINNAMOMI, E. SPIRITUS CINNAMOMI, L. D. Spirit of cinnamon.

A gallon of proof spirit distilled from a pound of bruised cinnamon.

Preferable to the former only where aident spirits are required.

c. TINCTURA LAURI CINNAMOMI, E. TINCTURA CINNAMOMI, L. D. Tincture of cinnamon.

Made by digesting three ounces, or three ounces and a half of bruised cinnamon, in about two pounds of proof spirit, for about a week.

A better tonic than the spirit, as it contains the astringent as well as aromatic principle of cinnamon. Dose two or three drams.

d. TINCTURA CINNAMOMI COMPOSITA, E. L. TINCTURA AROMATICA, D. Compound tincture of cinnamon. *Aromatic tincture*.

Made by digesting an ounce (or six drams, L. D.) of bruised cinnamon, an ounce (or two drams, D. or three drams, L.) of bruised cardamom seeds, two drams of powdered long pepper, (and two drams of powdered ginger, L. D.) in two pounds and a half (or two pounds, D. or two pints, L.) of proof spirit, for seven days.

A very hot tincture, useful in asthenic atony of the stomach. Dose two or three drams.

e. PULVIS AROMATICUS, E. L. D. Aromatic powder.

The Edinburgh aromatic powder is prepared of equal parts of cinnamon, lesser cardamom seeds, and ginger, beaten together to a very fine powder. The proportions of the other colleges are cinnamon two ounces, lesser cardamom seeds, ginger and long pepper, of each an ounce. Dose 10 grains to a scruple.

f. ELECTUARIUM AROMATICUM, E. D. CONFECTIO AROMATICA, L. Aromatic electuary or *confection*. *Cordial confection*.

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523  
Tincture  
of camphor.

524  
Camphorat-  
ed oil.

525  
Camphorat-  
ed liniment.

526  
Bay.

527  
Sassafras.

528  
Oil of sassa-  
fras.

529  
Rhubarb.

530  
Infusion of rhu-  
barb.

531  
Rhubarb  
wine.

The Edinburgh electuary is made by mixing one part of aromatic powder with two parts of syrup of orange peel. That of the Dublin college is prepared by mixing three ounces of conserve of orange peel with half an ounce of powdered cinnamon, half an ounce of powdered nutmeg, two drams of powdered ginger, and two drams of saffron, with an ounce of double refined sugar, and beating them together with a sufficient quantity of syrup of orange peel into an electuary. The London confection is made by first macerating half a pound of zedoary in coarse powder, and half a pound of saffron, in three pints of water for 24 hours, pressing out the liquor, and evaporating it to a pint and a half, and adding 16 ounces of compound powder of crabs claws, of cinnamon and nutmeg each two ounces, cloves an ounce, lesser cardamom seeds half an ounce, all in fine powder, and two pounds of double refined sugar, so as to form an electuary.

Of these compositions, the first is the best. Dose a scruple to half a dram.

518  
Cassia bark.

119. LAURUS CASSIA, E. CASSIA LIGNEA, D. Cassia bark. See BOTANY, p. 173.

This is commonly employed instead of cinnamon, and though not so delicate, is as efficacious as that expensive drug. The buds of cassia are, we believe, stronger than the bark.

*Official Preparation.*

519  
Cassia wa-  
ter.

a. AQUA LAURI CASSIÆ, E. Cassia water.

Distilled like cinnamon water, for which it is commonly substituted.

520  
Camphor.

120. LAURUS CAMPHORA, E. The camphor tree. CAMPHORA, L. D. Camphor or *Camphire*. See BOTANY, page 170 and 174; and CHEMISTRY, N<sup>o</sup> 2441. See also the article CAMPHORA.

Internally camphor is administered as a diaphoretic in typhoid fevers, in rheumatism, in low eruptive fevers, in a dose of from five to 20 grains; and as an antispasmodic in hiccup, hysteria, epilepsy, and in mania and melancholia, especially in that maniacal affection that sometimes takes place in lying-in women. It is applied externally in cases of gangrene, to discuss indolent tumors, and to disperse collections of milk in the breast of women who are weaning their infants.

*Official Preparations.*

521  
Camphorat-  
ed emul-  
sion.

a. EMULSIO CAMPHORATA, E. Camphorated emulsion.

Prepared by first beating together two drams of blanched sweet almonds, and a dram of double refined sugar, then rubbing with these a scruple of camphor, and gradually adding six ounces of water to make an emulsion. Dose two or three ounces.

522  
Camphorat-  
ed mixture.

b. MISTURA CAMPHORATA, L. Camphorated mixture.

Made by rubbing a dram of camphor, first with a little rectified spirit of wine, and then with half an ounce of double refined sugar, and adding gradually a pint of boiling distilled water, and straining off the clear liquor.

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Scarcely so active as the foregoing. Dose much the same.

c. TINCTURA CAMPHORÆ, E. SPIRITUS CAMPHORATUS, L. D. Tincture of camphor. *Camphorated spirit.*

A solution of camphor in rectified spirit. The several colleges direct very different proportions, viz. the Edinburgh an ounce, or two or three ounces, of camphor, to a pound of alcohol; the London four ounces to two pints; and the Dublin college half an ounce to eight ounces.

d. OLEUM CAMPHORATUM, E. Camphorated oil.

A solution of camphor in oil olive, in the proportion of half an ounce of the former to two ounces of the latter, made by triturating them together in a glass or marble mortar.

e. LINIMENTUM CAMPHORÆ COMPOSITUM, L. LINIMENTUM CAMPHORÆ, D. Compound liniment of camphor.

Made by first mixing six ounces of water of pure ammonia (L.) or 10 ounces of water of carbonated ammonia (D.) with 16 ounces, (or two pounds, D.) of spirit of lavender, and distilling off the spirit from a glass retort; then dissolving in the distilled spirit two ounces (L.) or three ounces (D.) of camphor.

These three last are intended for external application in the cases above mentioned, and the last is the most stimulating.

121. LAURUS NOBILIS, E. LAURUS, L. Bay. See BOTANY, p. 171, and 172.

The leaves, berries, and expressed oil of the berries, are employed in medicine.

122. LAURUS SASSAFRAS, E. SASSAFRAS, L. D. Sassafras wood, root, and bark. See BOTANY, p. 173.

Employed chiefly as a gentle diaphoretic or alterative in cutaneous eruptions, by way of decoction or infusion.

*Official Preparation.*

a. OLEUM VOLATILE LAURI SASSAFRAS, E. OLEUM SASSAFRAS, L. Oil of sassafras.

Distilled as the other volatile oils.

Order 2. TRIGYNIA.

123. RHEUM PALMATUM, E. RHABBARBARUM, L. D. Rhubarb. See BOTANY, p. 175.

*Official Preparations.*

a. INFUSUM RHEI PALMATI, E. Infusion of rhubarb.

Made by macerating half an ounce of bruised rhubarb in eight ounces of boiling water for 12 hours; then adding an ounce of spirit of cinnamon, and straining. Dose half an ounce to an ounce and a half.

b. VINUM RHEI PALMATI, E. VINUM RHABBARBARI, L. Rhubarb wine.

5 D

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The Edinburgh wine is prepared by infusing two ounces of sliced rhubarb and a dram of bruised canella alba in 15 ounces of Spanish white wine, and two ounces of diluted alcohol, for seven days, and straining through paper. The London formula directs two ounces and a half of sliced rhubarb, half an ounce of bruised lesser cardamom seeds, and two drams of saffron, to be digested in two pints of Spanish white wine, and half a pint of proof spirit, for 10 days.

The Edinburgh wine is the stronger, and may be given in the dose of an ounce. Dose of the London, about an ounce and a half, or a small wine glass full.

532  
Tincture of  
rhubarb.

c. TINCTURA RHEI PALMATI, E. TINCTURA RHABARBARI, L. D. Tincture of rhubarb.

Prepared by digesting three ounces (E.) or two ounces (L. D.) of sliced rhubarb, half an ounce (E.) or two drams (L. D.) of bruised cardamom seeds, (and two drams of saffron L. D.) in two pounds and a half (E.) or two pounds (D.) or two pints (L.) of proof spirit, for about a week, and straining.

As a purgative, this may be given in the dose of an ounce; as a stomachic from two to four drams.

533  
Compound  
tincture of  
rhubarb.

d. TINCTURA RHABARBARI COMPOSITA, L. Compound tincture of rhubarb.

Prepared of two ounces of sliced rhubarb, half an ounce of bruised liquorice root, two drams of powdered ginger, and two drams of saffron, digested for 14 days in 12 ounces of proof spirit mixed with a pint of distilled water.

Uses and doses as of the preceding.

534  
Tincture of  
rhubarb  
and aloes.

e. TINCTURA RHEI ET ALOES, E. Tincture of rhubarb and aloes.

Made by digesting 10 drams of sliced rhubarb, six drams of powdered locotorine aloes, and half an ounce of bruised cardamom seeds, in two pounds and a half of diluted alcohol, for seven days.

Dose half an ounce to an ounce.

535  
Tincture  
of rhubarb  
and gen-  
tian.

f. TINCTURA RHEI ET GENTIANÆ, E. Tincture of rhubarb and gentian.

Made by digesting two ounces of sliced rhubarb, and half an ounce of sliced gentian root, in two pounds and a half of diluted alcohol, for seven days, and straining.

A good stomachic. Dose two or three drams.

536  
Balsam of  
Peru.

CLASS X. DECANDRIA. Order I. MONOGYNIA.

123. MYROXYLON PERUVIFERUM, E. BALSAMUM PERUVIANUM, L. D. Balsam of Peru. See BOTANY, p. 182, and CHEMISTRY, N<sup>o</sup> 2484.

Official Preparation.

a. TINCTURA BALSAMI PERUVIANI, L. Tincture of balsam of Peru.

Made by digesting four ounces of balsam of Peru in a pint of rectified spirit of wine till the balsam is dissolved.

Dose half a dram to a dram and a half as a stimulant.

125. TOLUIFERA BALSAMUM, E. BALSAMUM TOLUTANUM, L. D. Balsam of Tolu. See BOTANY, p. 182, and CHEMISTRY, N<sup>o</sup> 2483.

Official Preparations.

a. TINCTURA TOLUIFERÆ BALSAMI, E. TINCTURA BALSAMI TOLUTANI, L. D. Tincture of balsam of Tolu.

Made by digesting an ounce, or an ounce and half (D.), of balsam of Tolu in a pound, or a pint (L.), of alcohol, till the balsam is dissolved.

This is the best form of employing this balsam, and it may be given mixed with honey, or, as in the following preparation, with syrup. Dose, half a dram to two drams as an expectorant or stimulant.

b. SYRUPUS TOLUIFERÆ BALSAMI, L. SYRUPUS TOLUTANUS, L. Syrup of balsam of Tolu, or balsamic syrup.

The Edinburgh college direct this syrup to be prepared by mixing an ounce of the above tincture with two pounds of common syrup. The London process is to boil eight ounces of balsam of Tolu with three pints of distilled water for two hours, strain the liquor, and boil it with a sufficient quantity of double refined sugar to make a syrup. The Edinburgh formula produces both a cheaper and a stronger syrup.

126. CASSIA FISTULA, E. CASSIA FISTULARIS, L. D. Cassia fruit. See BOTANY, p. 181.

Official Preparations.

a. ELECTUARIUM CASSIÆ FISTULÆ, E. ELECTUARIUM CASSIÆ, L. D. Electuary of cassia.

This is prepared of four parts (E.), or half a pound (L.), of the pulp of cassia; one part (E.), or an ounce (L.), of the pulp of tamarinds; one part (E.), or two ounces (L.), of manna; and four parts or half a pound of syrup of damask roses. The manna is first dissolved in the syrup by a gentle heat, the pulps are then added, and the whole evaporated to the consistence of an electuary.

A gentle laxative. Dose two or three drams.

127. CASSIA SENNA, E. SENNA, L. D. Senna leaves. See Woodville, Lewis, and Duncan (c.)

Official

(c) This volume is now drawing very near a close, and it is indispensable that the present article should not extend beyond it. It is therefore necessary that in the remaining part of the materia medica, we should be extremely concise, and should omit all the natural history, and much of the medical history, of the simple articles. Fortunately, in many cases, these circumstances have been anticipated under botany; and where this has not been



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*a.* INFUSUM SENNÆ SIMPLEX, L. Simple infusion of fenna.

<sup>544</sup> Simple infusion of fenna. Prepared by macerating an ounce and a half of fenna, and a dram of powdered ginger, in a pint of boiling water, for an hour, in a covered vessel. Dose about two or three ounces.

*b.* INFUSUM SENNÆ TARTARISATUM, L. Tartarized infusion of fenna.

<sup>545</sup> Tartarized infusion of fenna. Instead of ginger, half an ounce of bruised coriander seeds and two drams of crystals of tartar are here added. Dose as of the above.

*c.* INFUSUM TAMARINDI CUM SENNA, E. Infusion of tamarinds with fenna.

<sup>546</sup> Infusion of tamarinds with fenna. Prepared by macerating an ounce of preserved tamarinds, a dram (or two, three, &c. drams) of fenna, half a dram of bruised coriander seeds, and half an ounce of brown sugar, in eight ounces of boiling water, for four hours, in a glass vessel.

An excellent laxative. Dose from two to four ounces, according to the quantity of *fenna*.

*d.* TINCTURA SENNÆ COMPOSITA, E. TINCTURA SENNÆ, L. D. Compound tincture of fenna.

<sup>547</sup> Compound tincture of fenna. The Edinburgh tincture is made by digesting two ounces of fenna, an ounce of bruised jalap root, and half an ounce of bruised coriander seeds, in three pounds and a half of diluted alcohol, for seven days, straining the tincture, and adding four ounces of double-refined sugar. The London and Dublin tinctures are made by digesting a pound of fenna, an ounce and a half of bruised caraway seeds, half an ounce of bruised cardamom seeds, and 16 ounces of stoned raisins, in a gallon or nine pounds (D.) of proof spirit, for 14 days. Dose half an ounce to an ounce and a half.

*e.* ELECTUARIUM CASSIÆ SENNÆ, E. ELECTUARIUM SENNÆ, L. D. Electuary of fenna. *Le-ni-tive electuary.*

<sup>548</sup> Electuary of fenna. The Edinburgh and London electuaries are composed of eight ounces of pounded fenna, four ounces of powdered coriander seeds, three ounces of liquorice root, half a pound or a pound of figs, half a pound of pulp of tamarinds, half a pound of pulp of prunes (and half a pound of pulp of cassia (L.)), and two pounds and a half of double refined sugar. That of Dublin is made of four ounces of powdered fenna, a pound of pulp of French prunes, two ounces of pulp of tamarinds, a pound and a half of molasses, and two drams of essential oil of caraway. Dose about half an ounce.

*f.* EXTRACTUM CASSIÆ SENNÆ, E. EXTRACTUM SENNÆ, L. D. Extract of fenna.

<sup>549</sup> Extract of fenna.

Made like other extracts that have been mentioned. Dose 10 to 30 grains. Not much used.

*g.* PULVIS SENNÆ COMPOSITUS, L. Compound powder of fenna.

Composed of fenna, crystals of tartar, each two ounces, scammony half an ounce, and ginger two drams. Dose two or three scruples.

<sup>550</sup> Compound powder of fenna.  
<sup>551</sup> Logwood.  
128. HÆMATOXYLON CAMPECHIANUM, E. HÆMATOXYLON, L. D. LIGNUM CAMPECHENSE. Logwood. See BOTANY, p. 183.

*Official Preparation.*

*a.* EXTRACTUM HÆMATOXYLI, L. Extract of logwood.

Made by boiling logwood in successive portions of water, and evaporating the mixed liquors to a proper consistence. Dose a scruple to two scruples.

129. SWIETENIA MAHAGONI, E. Mahogany tree bark.

130. SWIETENIA FEBRIFUGA, E. Febrifuge Swietenia bark.

These barks are good tonics, and may be used instead of the cinchona.

<sup>552</sup> Extract of logwood.  
<sup>553</sup> Mahogany bark.  
<sup>554</sup> Febrifuge swietenia.  
131. GUAIAECUM OFFICINALE, E. GUAIAECUM, L. D. Guaiacum wood, bark and resin. See BOTANY, p. 181.; and for an excellent account of the nature and chemical properties of the resin, see Phil. Trans. for 1806. p. 89.

*Official Preparations.*

*a.* DECOCTUM GUAIAECI COMPOSITUM, E. Compound decoction of guaiacum. *Decoction of the woods.*

Made by boiling three ounces of guaiacum rasplings, and two ounces of stoned resins, in ten pounds of water to five pounds; adding towards the end, of sliced saffras and braised liquorice root, each an ounce.

Given as a diet drink in cutaneous eruptions and rheumatism, to the extent of a pint in the day.

*b.* TINCTURA GUAIAECI OFFICINALIS, E. Tincture of guaiacum.

Made by digesting a pound of powdered resin of guaiacum in two pounds and a half of alcohol for ten days, and filtering.

A good diaphoretic. Dose, two or three drams mixed with honey or syrup.

*c.* TINCTURA GUAIAECI AMMONIATA, E. TINCTURA GUAIAECI VOLATILIS, D. TINCTURA GUAIAECI, L. Ammoniated tincture of guaiacum.

5 D 2

This

the case, we here make a general reference to Woodville's "Medical Botany," Lewis's "Experimental History," Duncan's "New Dispensatory," the "Practical Synopsis," and "Thesaurus Medicaminum."



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This is made by digesting four ounces of powdered resin of guaiacum in about one pound and a half of ammoniated alcohol for seven days (three days L.), and filtering.

More stimulant than the last. Dose one or two drams.

559  
Rue.

132. RUTA GRAVEOLENS, E. RUTA, L. D. Rue. See BOTANY, p. 182.

*Official Preparations.*

560  
Volatile oil  
of rue.

a. OLEUM VOLATILE RUTÆ, D. Volatile oil of rue.

Distilled as other volatile oils. Used chiefly as an anthelmintic. Dose from three to six drops.

561  
Extract of  
rue.

b. EXTRACTUM RUTÆ GRAVEOLENTIS, E. EXTRACTUM RUTÆ, L. D. Extract of rue.

Made like other watery extracts. Dose about one scruple.

562  
Simarouba.

133. QUASSIA SIMARUBA, E. SIMAROUBA, L. D. Simarouba, or mountain damson bark.

Used as a tonic in dysentery, obstinate diarrhoea, indigestion, and intermittent fevers. Dose about a dram in substance, or two drams in the form of decoction, which is the better mode of exhibition.

563  
Quassia.

134. QUASSIA EXCELSA, E. QUASSIA, L. Quassia wood, bark, and root.

A strong bitter, and good tonic, generally given by way of infusion, in the proportion of one to two drams to a pint of water.

564  
Yellow  
flowered  
rhododendron.

135. RHODODENDRON CHRYSANTHUM, E. Yellow-flowered rhododendron. See BOTANY, p. 184. and Duncan's Dispensatory.

565  
Whortleberry.

136. ARBUTUS UVA URSI, E. UVA URSI, L. D. Whortleberry. See BOTANY, p. 184.

566  
Storax.

137. STYRAX OFFICINALE, E. STYRAX, L. STYRAX CALAMITA, D. Storax. See BOTANY, p. 184, and CHEMISTRY, N<sup>o</sup> 2481.

*Official Preparations.*

567  
Purified  
storax.

a. STYRAX PURIFICATA, L. D. Purified storax.

Storax is purified by dissolving it in rectified spirit, straining the solution, and reducing it to a proper thickness by a gentle heat.

Employed chiefly as an ingredient in a tincture to be mentioned immediately.

568  
Benzoin.

138. STYRAX BENZOIN, E. BENZOE, L. BENZOINUM, D. Benzoin or benjamin. See BOTANY, p. 184, and CHEMISTRY, N<sup>o</sup> 2480.

*Official Preparations.*

569  
Compound  
tincture of  
benzoin.

a. TINCTURA BENZOES COMPOSITA, E. L. BALSAMUM TRAUMATICUM. Compound tincture of benzoin. *Traumatic vulnerary, or friars balsam.*

Prepared by digesting three ounces of powdered ben-

zoin (two ounces of strained storax, L.) an ounce of balsam of Tolu, and half an ounce of powdered focotarine aloes, in two pounds of alcohol, for seven days (or, three days, L.) and straining.

This tincture forms a good expectorant, made into an emulsion with honey; and it has been long, though perhaps undeservedly, celebrated, as an external application to wounds.

b. ACIDUM BENZOICUM, E. SAL BENZOINI, D. FLORES BENZOES, L. Benzoic acid. *Salt acid of benzoïn. Flowers of benjamin.*

The Edinburgh process for obtaining this acid is, to triturate 24 ounces of benzoïn with eight ounces of carbonate of soda; to boil this mixture in 16 pounds of water, constantly stirring, straining the decoction; repeat the boiling with six pounds of more water, straining, mixing the two decoctions, and evaporating till only two pounds remain, filtering again, and dropping into the fluid diluted sulphuric acid as long as there is any precipitation; then dissolving the precipitated acid in boiling water, straining the solution through linen, and setting it aside to crystallize; and lastly washing the crystals with cold water, and drying them.

For other methods of procuring this acid, and for an account of its chemical properties, see CHEMISTRY, N<sup>o</sup> 714 *et seq.*

Benzoic acid is employed as an expectorant, in a dose of a grain or two.

139. COPAIFERA OFFICINALIS, E. BALSAMUM COPAIVA, L. BALSAMUM COPAIBA, D. copaiva. Balsam of COPAIVA. See BOTANY, p. 185.

Order II. DIGYNIA.

140. DIANTHUS CARYOPHYLLUS, E. CARYOPHYLLUM RUBRUM, L. D. Clove julyflower. See BOTANY, p. 196.

*Official Preparations.*

a. SYRUPUS DIANTHÆ CARYOPHYLLÆ, E. SYRUPUS CARYOPHYLLI RUBRI, L. Syrup of clove julyflower.

Made by macerating a pound or two of the petals of clove julyflowers fresh gathered, and freed from the heels, in four pounds or six pints of boiling water for 12 hours, in a glass vessel, straining the infusion, and adding of double refined sugar, seven pounds, or as much as is sufficient to form a syrup.

Order 4. PENTAGYNIA.

141. OXALIS ACETOCELLA. LUJULA, L. A. WOOD FORREL, D. Wood forrel. See BOTANY, p. 187.

*Official Preparations.*

a. CONSERVA ACETOSELLÆ, D. Conserve of wood forrel.

Made by beating the leaves of wood forrel in a marble mortar with a wooden pestle, first by themselves, and then with three times their weight of double refined sugar, till they are thoroughly combined.



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GYNIA.

576 Afarabacca. See BOTANY, p. 190.

*Official Preparations.*

577 Compound powder of afarabacca. *a. PULVIS ASARI COMPOSITUS, E. L. D.* Compound powder of afarabacca.

Prepared according to the London and Dublin processes, of equal parts of afarabacca, sweet marjoram, Syrian herb mastic, and lavender, dried and reduced together to a fine powder. In the Edinburgh formula there are used three parts of afarabacca, one of marjoram, and one of lavender.

Used as an errhine.

578 White cannella. 143. *CANELLA ALBA, E. L. D.* See BOTANY, p. 190.

CLASS XII. ICOSANDRIA. Order I. MONO-  
GYNIA.

579 Cloves. 144. *EUGENIA CARYOPHYLLATA, CARYOPHYLLUS AROMATICUS, E. CARYOPHYLLA AROMATICA, D.* Clove tree, and its essential oil. See Woodville's Botany, and Duncan's Dispensatory.

580 Pimento. 145. *MYRTUS PIMENTA, E. PIMENTO, L. D.* Pimento, *Jamaica pepper*, or *allspice*. See BOTANY, p. 194.

*Official Preparations.*

581 Pimento water. *a. AQUA MYRTÆ PIMENTÆ, E. AQUA PIMENTO, L.* Pimento water.

A gallon of water distilled from half a pound of pimento. Dose, a small wine glass full.

582 Volatile oil of pimento. *b. OLEUM VOLATILE MYRTI PIMENTÆ, E.* Volatile oil of pimento.

Distilled as other volatile oils. Given as a stimulus in a dose of two or three drops.

583 Spirit of pimento. *c. SPIRITUS MYRTI PIMENTÆ, E. SPIRITUS PIMENTO, L. D.* Spirit of pimento.

A gallon of proof spirit distilled from half a pound of bruised pimento. Dose about an ounce.

584 Pomegranate. 146. *PUNICA GRANATUM, E. GRANATUM, L. D.* Pomegranate. See BOTANY, p. 195.

585 Kino. 147. *EUCALYPTUS RESINIFERA, KINO, E. L. D.* Kino. See Duncan's Dispensatory.

*Official Preparation.*

586 Tincture of kino. *a. TINCTURA KINO, E. D.* Tincture of kino.

Prepared by digesting two ounces of powdered kino in a pound and a half of diluted alcohol, for seven days, and filtering. Dose from one dram to three, as an astringent.

148. *AMYGDALUS COMMUNIS, E. AMYGDALÆ DULCES, L. D. AMYGDALÆ AMARÆ, L.* Sweet and bitter almonds. See BOTANY, p. 195.

*Official Preparations.*

*a. OLEUM AMYGDALI COMMUNIS, E. OLEUM AMYGDALARUM, L. D.* Oil of almonds.

Expressed in the usual manner. Given as an emollient, *ad libitum*.

*b. EMULSIO AMYGDALÆ COMMUNIS, E. LAC AMYGDALÆ VEL AMYGDALARUM, L. D.* Almond emulsion.

Made by beating an ounce of blanched sweet almonds, or an ounce and a half, either by themselves, or with half an ounce of double refined sugar, and gradually pouring on them two pounds and a half or two pints of distilled water, to form an emulsion.

A grateful demulcent, that may be drunk in any quantity.

149. *PRUNUS DOMESTICA, E. L. D.* Prunes. Used as a gentle laxative, chiefly in composition.

150. *PRUNUS SPINOSA, PRUNUS SYLVESTRIS, L.* Sloes.

Employed as an astringent.

*Official Preparation.*

*a. CONSERVA PRUNI SYLVESTRIS, L.* Conserve of sloes.

Made by mixing any quantity of the pulp of sloes, obtained by boiling them in water till they are soft, and subsequent expression, with three times its weight of double refined sugar.

## Order 4. PENTAGYNIA.

151. *PYRUS CYDONIA, CYDONIA MALUS, L.* Quince seeds. See BOTANY, p. 197.

*Official Preparation.*

*a. MUCILAGO SEMINUM CYDONII MALI, L.* Mucilage of quince seed.

Made by boiling one dram of quince seeds in eight ounces of distilled water, with a slow fire for 10 minutes, and then squeezing the mucilage through linen.

## Order 5. POLYGYNIA.

152. *ROSA GALLICA, E. ROSA RUBRA, L. D.* Red rose buds. See BOTANY, p. 198.

*Official Preparations.*

*a. INFUSUM ROSÆ GALLICÆ, E. INFUSUM ROSARUM, D.* Infusion of red roses.

Prepared by infusing one ounce of the dried petals of red



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red roses, in about two pounds and a half of boiling water, in a glass or unglazed earthen vessel, till cold, then adding about half a dram of sulphuric acid, and about two ounces of double refined sugar.

A pleasant refrigerant and gentle astringent, given internally in hemorrhages, and much employed as a gargle.

597  
Syrup of  
red roses.

b. SYRUPUS ROSÆ GALLICÆ, E. Syrup of red roses.

Made by macerating seven ounces of the dried petals of red roses in five pounds of boiling water for 12 hours, straining the liquor, and adding six pounds of double refined sugar to make a syrup.

c. MEL ROSÆ, L. D. Honey of roses.

598  
Honey of  
roses.

Made by macerating four ounces of dried petals of red rose buds in three pints of boiling distilled water, for six hours, then straining the liquor, and boiling it with five pounds of clarified honey to the consistence of a syrup.

d. CONSERVA ROSÆ RUBRÆ, L. CONSERVA ROSÆ, D. Conserve of roses.

599  
Conserve of  
roses.

Made by beating the fresh petals of red roses with three times their weight of double-refined sugar till they are thoroughly mixed.

153. ROSA DAMASCENA, L. D. ROSA CENTIFOLIA, E. The damask rose. See BOTANY, p. 198.

600  
Damask  
rose.

*Official Preparations.*

a. AQUA ROSÆ CENTIFOLIÆ, E. AQUA ROSÆ, L. D. Rose water.

601  
Rose wa-  
ter.

A gallon of water distilled from six pounds of the fresh petals of damask roses.

Chiefly employed as a perfume.

b. SYRUPUS ROSÆ CENTIFOLIÆ, E. SYRUPUS ROSÆ, L. Syrup of damask roses.

602  
Syrup of  
damask  
roses.

Made by macerating one pound (E.) or seven ounces (L.) of the fresh petals of damask roses, in four pounds or four pints of boiling distilled water, and adding to the strained liquor three pounds (E.) or six pounds (L.) of double-refined sugar, to make a syrup.

603  
Hips.

154. ROSA CANINA, E. CYNOSBATUS, L. Hips. See BOTANY, p. 198.

*Official Preparation.*

a. CONSERVA ROSÆ CANINÆ, E. CONSERVA CYNOSBATI, L. Conserve of hips.

604  
Conserve of  
hips.

Made by beating any quantity of the pulp of ripe hips with three times its weight of double-refined sugar.

605  
Raspber-  
ries.

155. RUBUS IDÆUS, L. D. Raspberry. See BOTANY, p. 198.

*Official Preparation.*

a. SYRUPUS FRUCTUS RUBI IDÆI, L. Syrup of raspberry juice.

606  
Syrup of  
raspberries.

Made by boiling the juice of raspberry with a sufficient quantity of double-refined sugar to make a syrup.

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156. TORMENTILLA ERRECTA, E. TORMENTILLA, L. D. Tormentil root. See BOTANY, p. 199.

607  
Tormentil  
root.

157. POTENTILLA REPTANS. PENTAPHYLUM, L. Common cinquefoil. See BOTANY, p. 199.

608  
Common  
cinquefoil.

158. GEUM URBANUM. Avens or herb bennet. See BOTANY, p. 199. and the "Practical Synopsis."

609  
Avens.

This is considered as a good substitute for cinchona.

CLASS XIII. POLYANDRIA. Order I. MONOGYNIA.

159. PAPAVER RHOEAS. PAPAVER ERRATICUM, L. Common red poppy. See BOTANY, p. 204.

610  
Common  
red poppy.

*Official Preparation.*

a. SYRUPUS PAPAVERIS ERRATICI, L. Syrup of red poppy.

611  
Syrup of  
red poppy.

Four pounds of the fresh flowers of red poppy are gradually mixed with four pints and a half of boiling distilled water in a water bath, constantly stirring them; they are then suffered to macerate for 12 hours, the juice is pressed out and boiled with double-refined sugar into a syrup.

Generally added to narcotic draughts, juleps, &c.

160. PAPAVER SOMNIFERUM, E. PAPAVER ALBUM, L. D. White poppy. *Opium.* See BOTANY, p. 204.

612  
White  
poppy.

To dilute on any article, however important, is now out of our power; we must therefore, besides the above reference, refer our readers for the best accounts of opium, to Dr Crumpe's "Inquiry," Dr Duncan's Dispensatory, the "Practical Synopsis," and *Theaurus Medicaminum.*

*Official Preparations.*

a. OPIUM PURIFICATUM, L. D. Purified opium.

613  
Purified  
opium.

A pound of opium, cut into small pieces, is digested with 12 pints of proof spirit, with a gentle heat, till as much as possible of the opium is dissolved. The tincture is then filtered and distilled to a consistence proper for making into pills or beating to powder.

Purified opium is commonly considered as rather weaker than crude opium; two grains of the softer mass, and one grain and a half of the harder, being an ordinary dose.

b. PULVIS OPIATUS, E. L. Opiate powder.

614  
Opiate  
powder.

By the London process this is formed by mixing together a dram of hard purified opium in powder, and nine drams of burnt and prepared hartshorn. The Edinburgh powder is prepared of one part of opium, and nine parts of prepared carbonate of lime, rubbed together to a very fine powder.

Ten grains of these powders contain one grain of opium; but the Edinburgh powder is rather the strongest.



History of Simple and Official Medicines. <sup>615</sup> *Opiate pills.* They are useful when it is required to administer opium in very small doses.

*c. PILULÆ OPII, L. PILULÆ OPIATÆ, E.* Opium pills. *Opiate or thebaic pills.*

The London pills are prepared of two drams of hard purified opium in powder, and one ounce of extract of liquorice, beaten together till they are perfectly united. The Edinburgh pills are formed of one part of opium, and seven of extract of liquorice, softened separately with diluted alcohol, beaten into a pulp and mixed, and then beaten with two parts of pounded Jamaica pepper into an uniform mass.

The London pills contain two grains of opium, and the Edinburgh one grain, in 10 of the mass.

<sup>616</sup> *Extract of opium.* *a. EXTRACTUM OPII, D.* Extract of opium.

Prepared by dissolving two ounces of purified opium in one pound of boiling water, straining the liquor, and adding, while warm, one pound of cold distilled water, exposing to the air for two days, filtering again, and evaporating to the proper consistence of an extract.

<sup>617</sup> *Troches of liquorice with opium.* *e. TROCHISCI GLYCYRRHIZÆ CUM OPIO, E. TROCHISCI GLYCYRRHIZÆ COMPOSITI, D.* Troches of liquorice with opium. *Compound troches of liquorice.*

The Edinburgh troches are formed by triturating two drams of opium, with half an ounce of tincture of tolu; then adding by degrees five ounces of extract of liquorice, softened in warm water, and eight ounces of common syrup; and lastly, five ounces of powdered gum arabic, and drying the mass till it is of a consistence to form troches, weighing ten grains each. The Dublin formula directs two drams of purified opium to be triturated with a dram of balsam of Peru, and three drams of tincture of myrrh, till they are intimately mixed; then to be added two drams of tincture of tolu, and nine ounces of extract of liquorice, softened in warm water; when the whole is to be well beaten together, and, with the addition of five ounces of powdered gum arabic, formed into troches, weighing ten grains each.

These troches are intended to allay irritation in tickling coughs. About seven and a half of the Edinburgh, and six of the Dublin troches, contain about one grain of opium.

<sup>618</sup> *Opiate electuary.* *f. ELECTUARIUM OPIATUM, E. CONFECTIO OPIATA, L.* Opiate electuary. *Opiate confection.*

The Edinburgh electuary is formed by mixing together six ounces of aromatic powder, three ounces of finely powdered snakeroot, half an ounce of opium, diffused in a sufficient quantity of Spanish white wine, and one pound of the syrup of ginger. The London confection is prepared of six drams of hard purified opium in powder; of long pepper, ginger, and carraway seeds powdered, each two ounces; and syrup of white poppy boiled to the consistence of honey, three times the weight of the other ingredients. The opium is first mixed with the syrup, then the other powders added, and the whole intimately blended.

These are intended as stimulating compositions of

opium. Thirty-six grains of the London, and 43 of the Edinburgh preparation, contain about one grain of opium.

*g. ELECTUARIUM MIMOSÆ CATECHU, E. ELECTUARIUM CATECHU COMPOSITUM, D. CONFECTIO JAPONICA.* Electuary of catechu. *Japonic confection.*

These electuaries are prepared of four ounces of extract of catechu powdered, three ounces powdered kino, one ounce of cinnamon, and the same of nutmeg in powder, one dram and a half of opium, diffused in Spanish white wine, and two pounds and a quarter of syrup of red roses boiled to the consistence of honey (E.); or 14 ounces of syrup of ginger, and the same of the syrup of orange peel, boiled to the consistence of honey (D.).

Powerful astringents, given in diarrhœas. Ten scruples contain about one grain of opium, and the usual dose is a tea spoonful frequently repeated.

*h. TINCTURA OPII, E. L. D. TINCTURA THEBAICA.* Tincture of opium. *Thebaic tincture.* *Liquid laudanum.*

The London and Dublin tinctures are made by digesting two ounces of opium in two pounds of diluted alcohol, 14 days, and filtering. The London tincture is made by digesting ten grains of powdered purified opium in a pint of proof spirit for ten days.

These tinctures are considered as of nearly equal strength. Dose as narcotics, 25 or 30 drops; as antispasmodics, they are, like the solid opium, given in much larger doses.

*i. TINCTURA OPII CAMPHORATA, L. D. ELIXIR PAREGORICUM.* Camphorated tincture of opium. *Camphorated tincture of opium.* *Paregoric elixir.*

Prepared by digesting one dram of hard purified opium, one dram of flowers of benzoin, two scruples of camphor, and one dram of essential oil of aniseeds, in two pints of proof spirit, for ten days.

Half an ounce of this tincture contains about one grain of opium. Usual dose about one dram or two.

*k. TINCTURA OPII AMMONIATA.* *Olim ELIXIR PAREGORICUM, E.* Ammoniated tincture of opium. *Ammoniated tincture of opium.*

Made by digesting three drams of benzoic acid, three drams of sliced saffron, two drams of opium, and half a dram of volatile oil of aniseeds, in ten ounces of ammoniated alcohol, seven days, in a close vessel.

An excellent antispasmodic, stronger than the last. Dose about one dram.

*l. SYRUPUS OPII, D.* Syrup of opium.

Made by dissolving 48 grains of extract of opium in three pounds of boiling water, and adding a sufficient quantity of double refined sugar to make a syrup.

An excellent narcotic for children. According to Dr Duncan, an ounce of it contains about two grains and a half of opium.

*m. SYRUPUS PAPAVERIS SOMNIFERI, E. SYRUPUS PAPAVERIS ALBI, L.* Syrup of white poppies. *Syrup of white poppies.*

The Edinburgh syrup is made by macerating two pounds



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A weak narcotic, not so certain as the last syrup.

625 Ladanum. 161. CISTUS CRETICUS, LADANUM, L. Ladanum. See CHEMISTRY, N<sup>o</sup> 2466.

*Official Preparation.*

626 Compound ladanum plaster. a. EMPLASTRUM LADANI COMPOSITUM. L. Compound ladanum plaster.

Formed of three ounces of ladanum, one ounce of frankincense, powdered cinnamon and expressed oil of mace, each half an ounce, and one dram of essential oil of mint.

A warm stimulating plaster.

Order 3. TRIGYNIA.

627 Staveacre. 162. DELPHINIUM STAPHISAGRIA. STAPHISAGRIA, L. D. Staveacre.

Employed as an external application against vermin.

628 Bluemonkshood. 163. ACONITUM NEOMONTANUM. ACONITUM NAPPELLUS, E. ACONITUM, L. D. Blue monkshood, or aconite. See *Duncan's Dispensatory*.

*Official Preparations.*

629 Infusated juice of aconite. a. SUCCUS SPISSATUS ACONITI NAPELLI, E. Infusated juice of aconite.

Made from the fresh leaves of aconite in the usual manner. Dose from half a grain to three grains, twice or thrice a day.

Order 4. TETRAGYNIA.

630 Winter's bark. 164. WINTERA AROMATICA, E. Winter's bark. Similar to canella alba.

Order 6. POLYGYNIA.

631 Black hellebore. 165. HELLEBORUS NIGER, E. L. D. MELAMPodium. Black hellebore. See BOTANY, p. 210.

*Official Preparation.*

632 Tincture of black hellebore. a. TINCTURA HELLEBORI NIGRI, E. L. D. Tincture of black hellebore.

Prepared by digesting four ounces of black hellebore, and about half a dram of powdered cochineal, in two pounds and a half (E.), or two pints (L.), or two pounds (D.), of diluted alcohol, for about a week.

Much celebrated as an emmenagogue. Dose about a tea spoonful.

633 Stinking hellebore. 166. HELLEBORUS FOETIDUS. HELLEBORASTER, L. Stinking hellebore. See BOTANY, p. 210.

CLASS XIV. DIDYNAMIA. Order I. GYMNO-SPERMIA.

167. HYSSOPUS OFFICINALIS, E. HYSSOPUS, D. Hyssop. See BOTANY, p. 216. <sup>634</sup> Hyssop.

168. MENTHA VIRIDIS. MENTHA SATIVA, L. D. Spearmint. See BOTANY, p. 217. <sup>635</sup> Spearmint.

*Official Preparations.*

a. AQUA MENTHÆ SATIVÆ, L. D. Mint water. <sup>636</sup> Mint water. A gallon of water distilled from a pound and a half of mint.

b. OLEUM VOLATILE MENTHÆ SATIVÆ, L. D. Volatile oil of mint. <sup>637</sup> Oil of mint.

Distilled as other volatile oils.

c. SPIRITUS MENTHÆ SATIVÆ, L. Spirit of mint.

A gallon of spirit distilled from a pound and a half of mint.

169. MENTHA PIPERITA, E. MENTHA PIPERIS, L. D. Peppermint. See BOTANY, p. 217. <sup>638</sup> Peppermint.

*Official Preparations.*

a. AQUA MENTHÆ PIPERITÆ, E. AQUA MENTHÆ PIPERITIDIS, L. Peppermint water. <sup>639</sup> Peppermint water.

b. OLEUM VOLATILE MENTHÆ PIPERITÆ vel PIPERITIDIS, E. L. D. Oil of peppermint. <sup>640</sup> Oil of peppermint.

c. SPIRITUS MENTHÆ PIPERITÆ vel PIPERITIDIS, E. L. Spirit of peppermint. <sup>641</sup> Spirit of peppermint.

All these are prepared in the same manner as similar preparations of mint, possess similar properties, but rather stronger. Dose of the water, a wine glass full; of the oil, a drop or two; of the spirit, about an ounce.

170. MENTHA PULEGIUM, E. PULEGIUM, L. Pennyroyal. D. Pennyroyal. See BOTANY, p. 217. <sup>642</sup> Pennyroyal.

*Official Preparations.*

a. AQUA MENTHÆ PULEGII, E. AQUA PULEGII, L. D. Pennyroyal water. <sup>643</sup> Pennyroyal water.

b. OLEUM VOLATILE MENTHÆ PULEGII, E. OLEUM PULEGII, L. D. Oil of pennyroyal. <sup>644</sup> Oil of pennyroyal.

c. SPIRITUS MENTHÆ PULEGII, E. SPIRITUS PULEGII, L. Spirit of pennyroyal. <sup>645</sup> Spirit of pennyroyal.

Distilled in the same manner, and possessing similar properties with the preparations of mint.

171. LAVANDULA SPICA, E. LAVENDULA, L. D. Lavender flowers. See BOTANY, p. 216. <sup>646</sup> Lavender flowers.

*Official Preparations.*

a. OLEUM VOLATILE LAVANDULÆ SPICÆ, E. OLEUM LAVANDULÆ, L. D. Oil of lavender. <sup>647</sup> Oil of lavender.



History of Simple and Official Medicines. **LEUM VOLATILE LAVENDULÆ.** Volatile oil of lavender.

Distilled as other volatile oils.

<sup>648</sup> Spirit of lavender. **b. SPIRITUS LAVANDULÆ SPICÆ, E. SPIRITUS LAVENDULÆ, L. D.** Spirit of lavender.

Two pounds of fresh flowering spikes of lavender to eight pounds of alcohol, and seven pounds drawn off. (Ed.) A pound and half of lavender to a gallon, (L.) or nine pounds (D.) of proof spirit, and five pints, (L.) or five pounds (D.) drawn off.

A powerful stimulus, seldom employed internally, except in the following preparation.

<sup>649</sup> Compound tincture of lavender. **c. SPIRITUS LAVANDULÆ SPICÆ COMPOSITUS, E. SPIRITUS LAVENDULÆ COMPOSITUS, L. TINCTURA LAVENDULÆ COMPOSITA, D.** Compound spirit of lavender. *Compound tincture of lavender.*

Made by digesting an ounce (or half an ounce, L. D) of bruised cinnamon, half an ounce of bruised nutmegs, (two drams of bruised cloves, E.) and three drams (or an ounce L.) of red sanders shavings, in three pounds (or three pints L.) of spirit of lavender, and a pound (or a pint L.) of spirit of rosemary, for about a week.

An excellent cordial in faintness or nausea. Dose from 20 drops to a dram.

<sup>650</sup> Syrian herb mastich. **172. TEUCRIUM MARUM. MARUM SYRIACUM, L. D.** Syrian herb mastich. See BOTANY, p. 216.

<sup>651</sup> Water germander. **173. TEUCRIUM SCORDIUM. SCORDIUM, L.** Water germander. See BOTANY, p. 216.

<sup>652</sup> White horehound. **176. MARRUBIUM VULGARE, E. L. D.** White horehound. See BOTANY, p. 218.

<sup>653</sup> Origanum. **177. ORIGANUM VULGARE. ORIGANUM, L. D.** *Origanum, or wild marjoram.* See BOTANY, p. 218.

*Official Preparation.*

<sup>654</sup> Oil of origanum. **a. OLEUM ORIGANI, L. D.** Oil of origanum. Distilled as other volatile oils. Much used in tooth-ach.

<sup>655</sup> Sweet marjoram. **178. ORIGANUM MAJORANA, E. MAJORANA, L. D.** Sweet marjoram. See BOTANY, p. 219.

<sup>656</sup> Balm. **179. MELISSA OFFICINALIS, E. MELISSA, L.** Balm. See BOTANY, p. 219.

Order 2. ANGIOSPERMIA.

<sup>657</sup> Foxglove. **180. DIGITALIS PURPUREA, E. DIGITALIS, L. D.** Foxglove. See BOTANY, p. 221. See also Withering on Foxglove, Duncan's Dispensatory, the Practical Synopsis, and the *Thesaurus Medicaminum.*

Dose of the digitalis in substance about one grain, gradually increased.

*Official Preparations.*

<sup>658</sup> Infusion of foxglove. **a. INFUSUM DIGITALIS PURPUREÆ, E.** Infusion of foxglove.

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Made by macerating a dram of the dried leaves of foxglove in eight ounces of boiling water, with an ounce of spirit of cinnamon, for four hours, and filtering.

Used principally in dropical complaints. Dose half an ounce, or one ounce, twice a day.

<sup>659</sup> Tincture of foxglove. **b. TINCTURA DIGITALIS PURPUREÆ, E.** Tincture of foxglove.

Prepared by digesting an ounce of the dried leaves of foxglove in eight ounces of diluted alcohol, for seven days, and straining through paper.

Much recommended in hæmoptysis, and the early stages of consumption, to diminish the frequency of the pulse. Dose from 10 to 20 drops, twice or thrice a day, gradually and cautiously increased.

CLASS XV. TETRADYNAMIA. Order 1. SILICULOSÆ.

<sup>660</sup> Garden scurvygrafs. **181. COCHLEARIA OFFICINALIS, E. COCHLEARIA, D. COCHLEARIA HORTENSIS, L.** Garden scurvygrafs. See BOTANY, p. 225.

*Official Preparation.*

**a. SUCCUS COCHLEARIÆ COMPOSITUS, E. L.** Compound juice of scurvygrafs.

According to the Edinburgh process, this is prepared by mixing juice of scurvygrafs, juice of water cresses, both fresh gathered, and juice of Seville oranges, of each two pounds, with half a pound of spirit of nutmeg; and after the feces have subsided, straining the liquor. The London preparation is composed of two pints of juice of scurvygrafs, one pint of the juice of brooklime, and the same of that of water cresses, and 20 ounces by measure of Seville orange juice, mixed and strained as before.

A celebrated remedy in the scurvy, and cutaneous eruptions. Dose from one to four ounces, twice or thrice a day.

<sup>662</sup> Dish root. **182 COCHLEARIA ARMORACIA, E. RAPHANUS RUSTICANUS, L. D.** Horfe-radish root. See BOTANY, p. 226.

*Official Preparation.*

**n. SPIRITUS RAPHANI COMPOSITUS. L. D.** Compound spirit of horfe-radish.

Two gallons or 18 pounds (D.) of proof spirit distilled from fresh horfe-radish root, and dried Seville orange peel, of each two pounds; fresh garden scurvy grafs four pounds, and bruised nutmegs an ounce.

Formerly much celebrated as an antiscorbutic, and stimulant. Dose from half an ounce to an ounce.

Order 2. SILIQUOSÆ.

<sup>664</sup> Ladies smock. **183. CARDAMINE PRATENSIS, E. CARDAMINE, L.** Ladies smock. See BOTANY, p. 226.

<sup>665</sup> White mustard seed. **183. SINAPIS ALBA, E. SINAPIS, D.** White mustard seed.

<sup>666</sup> Common mustard seed. **184. SINAPIS NIGRA. SINAPIS, L.** Common mustard seed. See BOTANY, p. 228.



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667  
Mustard  
cataplasm.

*Official Preparation.*  
*a.* CATAPLASMA SINAPEOS, L. CATAPLASMA  
SINAPIUM, D. Mustard cataplasm, or sinapism.

Prepared of equal parts of powdered mustard and crumb of bread, made into a proper consistence with vinegar.

An excellent external stimulant application, in the low stage of acute diseases, and in other cases where slight external inflammation is indicated.

668  
Water-  
cresses.

185. SISYMBRIUM NASTURTIUM, E. NASTURTIUM AQUATICUM, L. D. Water cresses. See BOTANY, p. 226.

CLASS XVI. MONODELPHIA. Order 1. TRI-  
ANDRIA.

669  
Tamarinds.

186. TAMARINDUS INDICA, E. TAMARINDUS, L. D. Tamarinds. See BOTANY, p. 231.

Order 8. POLYANDRIA.

670  
Common  
mallow.

187. MALVA SYLVESTRIS, E. MALVA, L. Common mallow. See BOTANY, p. 233.

*Official Preparation.*

*a.* DECOCTUM PRO ENEMATE, L. Decoction for clysters.

671  
Decoction  
for clysters.

Made by boiling one ounce of the dried leaves of mallow, and one ounce and a half of dried chamomile flowers, with a pint of water, and straining.

672  
Marshmal-  
low.

188. ALTHÆA OFFICINALIS, E. ALTHÆA, L. Marshmallow root. See BOTANY, p. 233.

*Official Preparations.*

673  
Decoction  
of marsh-  
mallow.

*a.* DECOCTUM ALTHÆÆ OFFICINALIS, E. Decoction of marshmallow.

Made by boiling four ounces of dried marshmallow root bruised, and two ounces of stoned raisins of the sun, in seven pounds of water to five pounds, straining, and when the feces have subsided, pouring off the clear liquor.

A good emollient drink in inflammatory diseases.

674  
Syrup of  
marsh-  
mallow.

*b.* SYRUPUS ALTHÆÆ OFFICINALIS, E. SYRUPUS ALTHÆÆ, L. Syrup of marshmallow.

Made by boiling one pound of fresh marshmallow root, sliced or bruised, in ten pounds or a gallon of water, to one half, and adding four pounds of double-refined sugar to make a syrup.

A good emollient and demulcent in coughs, &c.

CLASS XVII. DIADELPHIA. Order 2. HEX-  
ANDRIA.

675  
Common  
fumitory.

189. FUMARIA OFFICINALIS. FUMARIA, D. Common fumitory. See BOTANY, p. 237.

Order 3. OCTANDRIA.

190. POLYGALA SENEGA, E. SENEKA, L. D. Seneka root. See BOTANY, p. 237.

*Official Preparation.*

*a.* DECOCTUM POLYGALÆ SENEGÆ, E. Decoction of feneka.

Made by boiling one ounce of feneka root in two pounds of water to 16 ounces, and straining.

Used in dropsy and rheumatic or arthritic complaints, and lately recommended in croup. Dose about two ounces, three or four times a-day.

Order 4. DECANDRIA.

191. PTEROCARPUS SANTALINUS, E. SANTALUM RUBRUM, L. D. Red sanders wood.

Employed chiefly to give colour to a tincture.

192. PTEROCARPUS DRACO, E. SANGUIS DRACONIS, L. Dragon's blood. See CHEMISTRY, N<sup>o</sup> 2467.

Employed as an astringent, but now seldom used.

193. SPARTIUM SCOPARIUM, E. GENISTA, L. D. Common broom tops. See BOTANY, p. 237.

*Official Preparation.*

*a.* EXTRACTUM GENISTÆ, L. Extract of broom. Employed as a diuretic.

194. DOLICHOS PRURIENS, E. DOLICHOS, D. Cowhage, or cow-itch. See BOTANY, p. 239.

195. ASTRAGALUS TRAGACANTHA, E. TRAGACANTHA, L. D. Gum tragacanth, or gum dragant.

This gum is a mere mucilage, and is employed as a demulcent.

*Official Preparations.*

*a.* MUCILAGO ASTRAGALI TRAGACANTHÆ, E. MUCILAGO TRAGACANTHÆ, L. MUCILAGO GUMMI TRAGACANTHÆ, D. Mucilage of gum tragacanth.

Made by macerating one ounce of powdered gum tragacanth in eight ounces of boiling water (E.), or half an ounce in ten ounces (L.), or one dram in eight ounces (D.), and dissolving by subsequent trituration.

*b.* PULVIS TRAGACANTHÆ COMPOSITUS, L. Compound powder of tragacanth.

Prepared of powdered gum tragacanth, gum arabic, and starch, of each half an ounce, rubbed into a powder with three ounces of double refined sugar.

A demulcent powder, serviceable in tickling coughs, strangury, ardor urinæ, violent mucous diarrhoea, and similar diseases.

196. GLYCYRRHIZA GLABRA, E. GLYCYRRHIZA, L. D. Licorice root.

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676  
Seneka  
root.

677  
Decoction  
of feneka.

678  
Red sanders  
wood.

679  
Dragon's  
blood.

680  
Common  
broom.

681  
Extract of  
broom.

682  
Cowhage.

683  
Gum traga-  
cath.

684  
Mucilage  
of gum tra-  
gacanth.

685  
Compound  
powder of  
tragacanth.

686  
Licorice  
root.



History of Simple and Official Medicines. **RHIZA, L. D.** Liquorice root and extract of liquorice. Used as an emollient and demulcent, in substance, in decoction, pills, electuaries, &c.

*Official Preparation.*

<sup>687</sup> Extract of liquorice. **a. EXTRACTUM GLYCYRRHIZÆ GLABRÆ, E. EXTRACTUM GLYCYRRHIZÆ, L. D.** Extract of liquorice.

Prepared like other watery extracts.

<sup>688</sup> Cabbage-tree bark. **197. GEOFFRÆA INERMIS, E. GEOFFRÆA, D.** Cabbage-tree bark.

Lately introduced into this country from the West Indies as an anthelmintic, in the form of decoction.

*Official Preparation.*

<sup>689</sup> Decoction of cabbage-tree bark. **a. DECOCTUM GEOFFRÆA INERMIS, E.** Decoction of cabbage-tree bark.

Made by boiling one ounce of powdered cabbage-tree bark with a gentle fire in two pounds of water to one pound, and straining. Dose to children a table spoonful, to adults four; giving castor oil, and diluting with acidulated drinks, if unpleasent symptoms should arise.

<sup>690</sup> Fenugreek seed. **198. TRIGONELLA FOENUM GRECUM. FOENUM GRECUM, L.** Fenugreek seed. See BOTANY, p. 241.

**CLASS XVIII. POLYADELPHIA. Order 3. ICOSANDRIA.**

<sup>691</sup> Seville orange. **199. CITRUS AURANTIUM, E. AURANTIUM HISPALENSE, L. D.** Seville orange juice, peel, and leaves. See BOTANY, p. 243.

*Official Preparations.*

<sup>692</sup> Syrup of orange peel. **a. SYRUPUS CITRI AURANTII, E. SYRUPUS CORTICIS AURANTII, L. D.** Syrup of orange peel.

Prepared by macerating six ounces, or eight ounces (L. D.), of the fresh outer rind of Seville oranges, with three pounds or five pints (L. D.) of boiling water, for 12 hours in a close vessel, and adding to the filtered liquor of double-refined sugar four pounds, or enough to make a syrup.

Used chiefly in composition.

<sup>693</sup> Orange peel water. **b. AQUA CITRI AURANTII, E.** Orange-peel water.

Ten pounds of water distilled from two pounds of fresh orange peel, after due maceration. A pleasant cordial water. Dose two or three ounces.

<sup>694</sup> Tincture of orange peel. **c. TINCTURA AURANTII CORTICIS, L. D.** Tincture of orange peel.

Made by digesting three ounces of fresh orange peel in two pints or two pounds of proof spirit for three days. Dose three or four drams to an ounce.

**d. CONSERVA CITRI AURANTII, E. CONSERVA AURANTII HISPALENSIS, L. CONSERVA CORTICIS AURANTII, D.** Conserve of orange peel.

Prepared by beating the fresh rind of Seville oranges first by itself, and then with three times its weight of double-refined sugar.

<sup>696</sup> **200. CITRUS MEDICA, E. LIMON, L. D. Le-Limon.** Lemon juice, peel, and essential oil. See BOTANY, p. 242.

*Official Preparations.*

**a. AQUA CITRI MEDICÆ, E.** Lemon peel water. <sup>697</sup> Lemon peel water.

A gallon of water distilled from two pounds of fresh lemon peel.

A pleasant aromatic water, similar to orange water.

**b. SYRUPUS CITRI MEDICÆ, E. SYRUPUS LIMONIS SUCCI, L. D.** Syrup of lemon juice. <sup>698</sup> Syrup of lemon juice.

Made by dissolving five parts (E.) or five pounds (L.) or four pounds (D.) of double-refined sugar, in three parts or two pints (L.) or two pounds (D.) of filtered lemon juice.

A pleasant refrigerant syrup.

**c. SUCCUS LIMONIS SPISSATUS, L.** Inspissated lemon juice. <sup>699</sup> Inspissated lemon juice.

Prepared in the same manner as the inspissated juice of elder berries.

Employed chiefly as a refrigerant, especially in bilious or remittent fevers.

**Order 4. POLYANDRIA.**

<sup>700</sup> **201. MELALEUCA LEUCODENDRON, E. CAJEPUTA.** Cajeput oil.

Used as an external stimulant in cases of luxation, sprains, and rheumatic and gouty affections.

**202. HYPERICUM PERFORATUM. HYPERICUM, L.** St John's wort. See BOTANY, p. 243. <sup>701</sup> St John's wort.

**CLASS XIX. SYNGENESIA. Order 1. POLYGAMIA ÆQUALIS.**

<sup>702</sup> **203. LEONTODON TARAXACUM, E. TARAXACUM, L. D.** Dandelion root and leaves. <sup>702</sup> Dandelion.

Reputed a diuretic, but scarcely employed in modern practice.

**204. LACTUCA VIROSA, E.** Wild lettuce. See BOTANY, p. 248. and Duncan's Dispensatory. <sup>703</sup> Wild lettuce.

*Official Preparation.*

**a. SUCCUS SPISSATUS LACTUCÆ VIROSÆ, E.** Inspissated juice of wild lettuce. <sup>704</sup> Inspissated juice of wild lettuce.

Prepared as other inspissated juices; employed as a narcotic and diuretic, principally in dropsies proceeding from visceral obstructions. Dose at first about



History of Simple and Official Medicines. three grains, gradually increased to 15 or more, twice or thrice a-day.

705 Burdock root. 205. ARCTIUM LAPPA, E. BARDANA, L. D. Burdock root.

Recommended as a diuretic, and given in the form of decoction in dropfies, &c.

706 Artichoke leaves. 206. CYNARA SCOLYMUS, E. CINARA SCOLYMUS, E. D. Artichoke leaves.

Employed as a diuretic.

Order 2. POLYGAMIA SUPERFLUA.

707 Southernwood. 207. ARTEMISIA ABROTANUM. ABROTANUM, L. Southernwood. See BOTANY, p. 251.

*Official Preparation.*

708 Decoction for fomentation. a. DECOCTUM PRO FOMENTO, L. Decoction for fomentations.

Prepared by boiling for a little, of the dried leaves of southernwood, the dried tops of sea wormwood, and dried chamomile flowers, each an ounce, with half an ounce of dried bay leaves, in six pints of distilled water, and straining.

709 Sea-wormwood. 208. ARTEMISIA MARITIMA. ABSYNTHIUM MARITIMUM, L. D. Sea-wormwood. See BOTANY, p. 251.

*Official Preparation.*

710 Conserve of sea wormwood. a. CONSERVA ABSYNTHII MARITIMI, L. Conserve of sea wormwood.

Prepared by beating the fresh tops of sea wormwood with three times their weight of double refined sugar, into a conserve.

Employed as a tonic and stomachic in hypochondriasis, epilepsy, &c. and as an anthelmintic. Dose two drams to half an ounce, twice or thrice a day.

711 Wormseed. 209. ARTEMISIA SANTONICA, E. SANTONICUM, L. D. Worm seed.

Employed as an anthelmintic. Dose from half a dram to a dram, twice a-day, in powder.

712 Common wormwood. 210. ARTEMISIA ABSYNTHIUM, E. ABSYNTHIUM VULGARE, L. D. Common wormwood. See BOTANY, p. 251.

713 Tanfy. 211. TANACETUM VULGARE, E. TANACETUM, L. D. Tanfy, leaves and flowers. See BOTANY, p. 251.

A good tonic and anthelmintic. Dose half a dram to four drams in substance, or a table spoonful of the expressed juice.

714 Leopard's bane. 212. ARNICA MONTANA, E. L. D. German leopard's bane. See BOTANY, p. 253, and Duncan's Dispensatory.

715 Elecampane. 213. INULA HELENIUM. INULA CAMPANA, L. D. Elecampane. See BOTANY, p. 253.

716 Golden rod. 214. SOLIDAGO VIRGA AUREA. VIRGA AUREA, D. Golden rod. See BOTANY, p. 253.

215. TUSSILAGO FARFARA, E. TUSSILAGO, L. D. Coltsfoot. See BOTANY, p. 252.

216. ANTHEMIS NOBILIS, E. CHAMÆMELUM, L. D. Chamomile flowers. See BOTANY, p. 254.

An excellent tonic and anthelmintic. Dose in substance about a scruple in powder, or one dram in infusion. Used externally as an emollient and discutient, in the form of clyster or fomentation.

*Official Preparations.*

a. DECOCTUM ANTHEMIDIS NOBILIS, E. DECOCTUM CHAMÆMELI, D. Decoction of chamomile. 717 718

Prepared by boiling an ounce of chamomile flowers, and half an ounce of bruised caraway seeds, in five pounds of water (E.), or half an ounce of chamomile flowers with two drams of sweet fennel seeds, in a pound of water (D).

Used as a carminative clyster, or stimulant fomentation.

b. EXTRACTUM ANTHEMIDIS NOBILIS, E. EXTRACTUM CHAMÆMELI, L. Extract of chamomile. 720

Prepared as other watery extracts. Dose from a scruple to a dram, as a tonic and anthelmintic.

217. ANTHEMIS PYRETHRUM, E. PYRETHRUM, L. D. Pellitory of Spain. 721

Used chiefly as a masticatory in toothach.

Order 3. POLYGAMIA FRUSTRANEA.

218. CENTAUREA BENEDICTA, E. CARDUUS BENEDICTUS, L. D. Blessed thistle. See BOTANY, p. 255. 722

CLASS XX. GYNANDRIA. Order V. HEXANDRIA.

219. ARISTOLOCHIA SERPENTARIA, E. SERPENTARIA VIRGINIANA, L. D. Virginian snake-root. See Duncan's Dispensatory, and the Synopsis Materię Medicę. 723

Employed as a stimulant and tonic in low fevers, gangrene, &c. Dose in substance 10 grains to 30.

*Official Preparation.*

a. TINCTURA ARISTOLOCHIÆ SERPENTARIÆ, E. TINCTURA SERPENTARIÆ, L. D. Tincture of snake root. 724

Prepared by digesting two ounces of bruised Virginian snake root, and a dram of powdered cochineal, in two pounds and a half of diluted alcohol, for seven days (E.), or three ounces of snake root in two pints (L.), or two pounds (D.) of proof spirit, for seven or eight days. Dose from two drams to half an ounce.

Order 10. POLYANDRIA.

220. ARUM MACULATUM. ARUM, L. D. Arum, Wake robin. 725

*Official.*



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726  
Conserve of  
arum.

*a.* CONSERVA ARI, L. Conserve of arum.

Made by beating a pound and a half of the fresh root of arum bruised, with a pound and a half of double refined sugar, into a conserve. Dose about a dram.

CLASS XXI. MONOECIA. Order I. MONOGYNIA.

727  
Nutmeg  
tree.

221. MYRISTICA MOSCHATA, E. MYRISTICA, L. D. Nutmeg tree.

728  
Oil of  
mace.

NUX MOSCHATA. Nutmeg. MACIS. Mace. OLEUM MACIS. Oil of Mace. See Duncan's Dispensatory.

*Official Preparations.*

729  
Spirit of  
nutmeg.

*a.* SPIRITUS MYRISTICÆ MOSCHATÆ, E. SPIRITUS NUCIS MOSCHATÆ, L. D. Spirit of nutmeg.

A gallon of spirit distilled from two ounces of well-bruised nutmegs. A good cordial. Dose about half an ounce.

Order 4. TETRANDRIA.

730  
Birch juice.

222. BETULA ALBA, D. Birch juice.

A gentle diuretic.

731  
Mulberries.

223. MORUS NIGRA. MORUS, L. Mulberries.

*Official Preparations.*

732  
Syrup of  
mulberry  
juice.

*a.* SYRUPUS SUCCI FRUCTUS MORI, L. Syrup of mulberry juice.

Prepared in the same manner as the syrup of black currant juice.

Employed as a refrigerant and demulcent.

733  
Common  
stinging  
nettle.

224. URTICA DIOICA. URTICA, L. Common stinging nettle.

Used as a rubefacient to paralytic limbs, which are whipped with nettles.

Order 8. POLYANDRIA.

734  
Oak bark.

225. QUERCUS ROBUR, E. QUERCUS, L. D. Oak bark.

A powerful astringent, employed in passive hemorrhages, diarrhoea, leucorrhoea, and similar cases. Dose in substance 15 grains to half a dram of the powdered bark. Used externally by way of gargle, or lotion.

*Official Preparation.*

735  
Extract of  
oak bark.

*a.* EXTRACTUM QUERCUS, D. Extract of oak bark.

Prepared like other watery extracts. Dose 10 grains to a scruple.

736  
Gall nuts.

226. QUERCUS CERRIS, E. L. D. GALLA. Gallnuts. See Duncan's Dispensatory.

This is perhaps a more powerful astringent than oak bark, and is employed in similar cases.

227. JUGLANS REGIA. JUGLANS, L. Unripe walnuts.

Employed as a tonic and anthelmintic.

Order 10. MONODELPHIA.

228. PINUS ABIES. The fir tree.

PIX BURGUNDICA, E. D. Burgundy pitch.

*Official Preparation.*

*a.* EMPLASTRUM PICIS BURGUNDICÆ, D. EMPLASTRUM PICIS COMPOSITUM, L. Compound Burgundy pitch plaster.

Prepared of two pounds of Burgundy pitch, one pound of ladanum (L.) or of galbanum (D.), four ounces of yellow wax, the same of yellow resin, and one ounce of expressed oil of mace.

A stimulating plaster.

229. THUS, L. Frankincense.

*Official Preparation.*

*a.* EMPLASTRUM THURIS COMPOSITUM, L. Compound plaster of frankincense.

Prepared of half a pound of frankincense, three ounces of dragon's blood, and two pounds of litharge plaster, adding the resins in powder to the melted litharge plaster.

230. PINUS BALSAMEA. Hemlock fir.

BALSAMUM CANADENSE, E. L. D. Balsam of Canada.

231. PINUS LARIX. The larch.

TEREBINTHINA VENETA, E. D. Venice turpentine. OLEUM VOLATILE PINI, E. OLEUM TEREBINTHINÆ, L. D. Oil of turpentine.

The oil of turpentine is directed by the London college to be prepared by distillation from common turpentine.

*Official Preparation.*

OLEUM VOLATILE PINI PURISSIMUM, E. OLEUM TEREBINTHINÆ RECTIFICATUM, L. D. Purified oil of turpentine. *Spirit of turpentine.*

Distilled with the addition of water in well luted vessels till the purest part of the oil has come over.

Stimulant and diuretic. Dose from 10 to 30 drops. Mixed with an equal proportion of ether, it is much recommended in calculus. It is an excellent application to chilblains and recent burns.

232. PINUS SYLVESTRIS.

A. PIX LIQUIDA, E. D. Tar.

*Official Preparation.*

*a.* UNGUENTUM PICIS, E. L. D. Tar ointment. Prepared by melting together equal parts of tar and mutton

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737  
Walnut.

738  
Fir tree.

739  
Burgundy  
pitch.

740

Compound  
Burgundy  
pitch plas-  
ter.

741  
Frankin-  
cense.

742

Compound  
plaster of  
frankin-  
cense.

743

Balsam of  
Canada.

744  
Larch.

745

Venice tur-  
pentine.

746  
Oil of tur-  
pentine.

747  
Purified oil  
of turpen-  
tine.

748  
Tar.

749  
Tar oint-  
ment.



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mutton suet (L. D.), or five parts of tar and two parts of yellow wax (E.)

Esteemed a good application in cutaneous diseases, especially *tinea capitis*.

750  
Common  
turpentine.

B. TEREBINTHINA VULGARIS, L. D. Common turpentine.

This, like other turpentine, is a stimulant and diuretic.

751  
Yellow  
rosin.

C. RESINA FLAVA, L. RESINA ALBA, D. Yellow rosin. *White rosin*.

Employed chiefly in making stimulating ointments and plasters.

*Official Preparations.*

752  
Resinous  
ointment.

a. UNGUENTUM RESINOSUM, E. UNGUENTUM RESINÆ FLAVÆ, L. D. Resinous ointment. *Yellow basilicon*.

Prepared by melting together eight parts of hog's lard, five of white rosin, and two of yellow wax (E.); or by melting together, of yellow rosin and yellow wax, each one pound, over a slow fire, adding a pint or seven ounces of olive oil, and straining the mixture while hot (L. D.).

753  
Cerate of  
yellow  
rosin.

b. CERATUM RESINÆ FLAVÆ, L. D. Cerate of yellow rosin.

Prepared by melting together half a pound of the preceding ointment, and one ounce of yellow wax.

These are intended as stimulating applications to ulcers that do not heal or suppurate properly.

754  
Resinous  
plaster.

c. EMPLASTRUM RESINOSUM, E. EMPLASTRUM LYTHARGYRI CUM RESINA, L. EMPLASTRUM ADHESIVUM. Resinous plaster. *Litharge plaster with rosin. Adhesive plaster*.

Prepared by melting five parts (E.), or three pounds (L.), of plaster of semivitrified oxide of lead (*litharge plaster*), and adding one part (E.) or half a pound (L.) of white or yellow rosin powdered.

Employed, spread on linen, to form adhesive plasters; for keeping the edges of ulcers or recent wounds together; for giving mechanical support to ulcerated limbs, or keeping on other dressings.

755  
Palma  
christi  
seeds.

233. RICINUS COMMUNIS, E. L. D. Palma christi seeds. See BOTANY, p. 271.

*Official Preparation.*

756  
Castor oil.

a. OLEUM RICINI, L. Castor oil.

Expressed in the usual manner from the husked seeds.

Castor oil is seldom prepared in this country, being brought chiefly from the West Indies. When cold drawn, it is milder, and less subject to become rancid, but it requires a larger dose than the common oil. It is an excellent purgative, well suited to cases of colic and worms, given either by the mouth, or by way of clyster. Dose in the former case about one ounce, and in the latter about two ounces.

234. CROTON ELEUTHERIA, E. CASCARILLA, L. D. Cascarilla bark.

An excellent aromatic tonic. Dose about half a dram, or two scruples, two or three times a-day.

*Official Preparations.*

a. TINCTURA CASCARILLÆ, L. D. Tincture of cascarrilla.

Prepared by digesting four ounces of powdered cascarrilla bark in two pints or two pounds (D.) of proof spirit, for about a week, with a gentle heat. Dose about one ounce; best in composition with decoction or infusion of cinchona.

b. EXTRACTUM CASCARILLÆ, L. D. Extract of cascarrilla.

Prepared in the usual way of making extracts. Dose from 10 to 30 grains.

Order 10. SYNGENESIA.

235. MOMORDICA ELATERIUM, E. CUCUMIS AGRESTIS, L. D. Wild cucumber.

*Official Preparation.*

a. SUCCUS SPISSATUS MOMORDICÆ ELATERII, E. ELATERIUM, L. Inspissated juice of wild cucumber. *Elaterium*.

This is prepared by slicing ripe wild cucumbers, expressing the juice very gently, and straining it through a very fine hair sieve; boiling it a little, and setting it by for some hours, till the thicker part has subsided. The supernatant fluid is then poured off, and separated by filtering from the thicker matter, which is to be dried and kept for use.

A violent cathartic, employed in dropsy. Dose half a grain to one grain.

236. CUCUMIS COLOCYNTHIS, E. COLOCYNTHIS, L. D. Colocynth or bitter apple. See BOTANY, p. 271.

*Official Preparation.*

a. EXTRACTUM COLOCYNTHIDIS COMPOSITUM, L. Compound extract of colocynth.

Prepared by digesting six drams of the pith of colocynth, cut small, in a pint of proof spirit, with a gentle heat for four days, then dissolving in the expressed tincture one ounce and a half of powdered socotrine aloes, and half an ounce of powdered scammony; and lastly drawing off the spirit, and adding to the inspissated extract, a dram of husked cardamom seeds in powder.

A strong cathartic and anthelmintic. Dose from 5 to 30 grains.

237. BRYONIA ALBA. BRYONIA, D. Bryonia root. See BOTANY, p. 271. where it is described under the name of *Bryonia dioica*.



CLASS XXII. DIECIA. Order 2. DIANDRIA.

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765 Crack willow bark.

238. SALIX FRAGILIS. SALIX, D. Crack willow bark. A good tonic, employed as a substitute for Peruvian bark. Dose about one dram.

Distilled in the same manner as other volatile oils. Stimulant and diuretic. Dose from three to ten drops.

b. SPIRITUS JUNIPERI COMMUNIS COMPOSITUS, E. SPIRITUS JUNIPERI COMPOSITUS, L. D. Compound spirit of juniper.

Nine pounds or a gallon of diluted alcohol distilled from one pound of well-bruised juniper berries, one ounce and a half of bruised caraway seeds, and the fame of sweet fennel seeds.

A good diuretic, but not superior to common gin.

766 Chio turpentine.

Order 5. PENTANDRIA.  
239. PISTACIA TEREBINTHUS. TEREBINTHINA CHIA, L. Chio turpentine.

Not materially different from the other turpentine.

767 Mastich.

240. PISTACIA LENTISCUS, E. MASTICHE, L. Mastich. See BOTANY, p. 276. and CHEMISTRY, N<sup>o</sup> 2464.

244. JUNIPERUS LYCIA, E. OLIBANUM, L. Olibanum. See CHEMISTRY, N<sup>o</sup> 2487.

768 Hop.

241. HUMULUS LUPULUS. Hop. A good narcotic, which has been found an excellent substitute for opium. See an *Inaugural dissertation de Humulo Lupulo*, lately printed at Edinburgh by Dr de Roches, and Kirby's tables, p. 94.

244. JUNIPERUS SABINA, E. SABINA, L. D. Savine.

Reputed a specific in uterine obstructions, but gradually losing its celebrity. Dose in substance from fifteen grains to two scruples. Applied externally as an escharotic to venereal warts and simular excrescences.

Order 6. HEXANDRIA.

769 Sarsaparilla root.

242. SMILAX SARSAPARILLA, E. SARSAPARILLA, L. D. Sarsaparilla root.

A slight diaphoretic, of little efficacy.

a. OLEUM VOLATILE JUNIPERI SABINÆ, E. OLEUM SABINÆ, D. Volatile oil of savine.

b. EXTRACTUM SABINÆ, L. D. Extract of savine. Made like other extracts. Dose from 10 to 30 grains, twice or thrice a-day.

Official Preparations.

770 Decoction of sarsaparilla.

a. DECOCTUM SMILACIS SARSAPARILLÆ, E. DECOCTUM SARSAPARILLÆ, L. D. Decoction of sarsaparilla.

Prepared by digesting six ounces of sliced sarsaparilla root in eight pints of distilled water, for two hours, in a heat of about 195°; then taking out the root and bruising it, repeating the maceration; then boiling the liquor down to four pints, pressing it out, and straining the decoction.

c. TINCTURA SABINÆ COMPOSITA, L. Compound tincture of savine.

Prepared by digesting one ounce of extract of savine in a pint of tincture of castor, and half a pint of tincture of myrrh, till the extract is dissolved.

Given as an emmenagogue, and as an antispasmodic in hypochondriac affections. Dose from 30 drops to a dram, twice or thrice a-day.

771 Compound decoction of sarsaparilla.

b. DECOCTUM SARSAPARILLÆ COMPOSITUM, L. D. Compound decoction of sarsaparilla.

Made by macerating six ounces of sliced and bruised sarsaparilla root, one ounce of the bark of cassiafras root, in ten pints of distilled water, for six hours; then boiling down to five pints, adding towards the end three drams of mezereon, and straining the decoction.

A good diet drink, but scarcely superior to the compound decoction of guaiacum. Dose from four to eight ounces, three or four times a-day.

246. CISSAMPELOS PAREIRA. PAREIRA BRAVA, L. Pareira brava root. See Duncan's Dispensatory.

CLASS XXIII. POLYGAMIA. Order 1. MONOECIA.

772 Juniper berries.

243. JUNIPERUS COMMUNIS, E. JUNIPERUS, L. D. Juniper berries. See BOTANY, p. 278.

247. STALAGMITIS CAMBOGIODES. GAMBOGIA, E. L. D. Gamboge. See Duncan's Dispensatory.

A violent cathartic and anthelmintic. Dose from 1 or 2 grains to 10 or 15 grains. The latter chiefly in cases of tenia.

Order 12. MONADELPHIA.

773 Oil of juniper.

a. OLEUM VOLATILE JUNIPERI COMMUNIS, E. OLEUM JUNIPERI BACCÆ, L. OLEUM BACCARUM JUNIPERI, D. Oil of juniper berries.

248. VERATRUM ALBUM, E. HELLEBORUS ALBUS, L. D. White hellebore root. See BOTANY, p. 281.

Official Preparations.

b. DECOCTUM HELLEBORI ALBI, L. Decoction of white hellebore.

Made by boiling an ounce of powdered white hellebore.



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bore root in two pints of distilled water to one pint, and adding to the strained liquor when cold two ounces of rectified spirit of wine.

Used as a lotion, diluted, if necessary, in the itch, and similar cutaneous affections.

784.  
Tincture of  
white hel-  
lebores.

b. TINCTURA VERATRI ALBI, E. Tincture of white hellebore.

Prepared by digesting eight ounces of powdered white hellebore root in two pounds and a half of diluted alcohol for several days, and filtering through paper.

Employed occasionally to assist the operation of emetics and cathartics, in some apoplectic and paralytic cases, in mania; dose in these cases from half a dram to two drams. Employed also as a general stimulant or alterative in cutaneous diseases, beginning with about two drops twice or three a day, and gradually increasing the dose.

785  
Ointment  
of white  
hellebore.

c. UNGUENTUM HELLEBORI ALBI, L. D. Ointment of white hellebore.

Prepared by mixing four ounces of ointment of hogs lard, with one ounce of powdered white hellebore, and one scruple of essential oil of lemon.

Used in similar cases with the decoction.

786  
Catechu.

249. MIMOSA CATECHU, E. CATECHU, L. D. Catechu, or *Japan earth*. See BOTANY, p. 282.

A powerful astringent, employed in diarrhoeas, uterine hemorrhage; and externally by way of lotion, or lozenge, for exulcerations and aphthous ulcers of the mouth. Dose internally from 15 grains to two scruples.

#### Official Preparations.

787  
Infusion of  
catechu.

a. INFUSUM MIMOSÆ CATECHU, E. INFUSUM JAPONICUM. Infusion of catechu.

Prepared by macerating two drams and a half of powdered extract of catechu, and half a dram of bruised cinnamon, in seven ounces of boiling water, for two hours, in a covered vessel, straining the liquor and adding one ounce of simple syrup. Dose from one to two ounces.

788  
Tincture of  
catechu.

b. TINCTURA MIMOSÆ CATECHU, E. TINCTURA CATECHU, L. TINCTURA JAPONICA. Tincture of catechu.

Prepared by digesting three ounces of extract of catechu, and two ounces of bruised cinnamon, in two pounds and a half, or two pints (L.), of diluted alcohol, for seven or ten days, and straining through paper. Dose two or three drams.

c. ELECTUARIUM MIMOSÆ CATECHU, E. ELECTUARIUM CATECHU COMPOSITUM, D. CONFECTIO JAPONICA. Electuary of catechu. *Japanese Confection*. See preparations of opium.

789  
Gum ara-  
bic.

250. MIMOSA NILOTICA, E. GUMMI ARABICUM, L. D. Gum arabic.

A dry mucilage, very useful as an exsollent and demulcent.

#### Official Preparations.

a. MUCILAGO MIMOSÆ NILOTICÆ, E. MUCILAGO ARABICI GUMMI, L. D. Mucilage of gum arabic.

Prepared by dissolving one part of powdered gum-arabic in about two of boiling water, and straining.

b. EMULSIO MIMOSÆ NILOTICÆ, E. EMULSIO ARABICA, D. Arabic emulsion.

Prepared, according to the Edinburgh process, in the same manner as almond emulsion, with the addition of two ounces of gum arabic, added while beating the almonds. The Dublin emulsion is composed of two drams of powdered gum arabic, half an ounce of large almonds, three drams of double-refined sugar, and one pound of decoction of barley.

Employed in the same cases as almond emulsion.

c. TROCHISCI GUMMOSI, E. Gum troches.

Prepared of four parts of gum arabic, one of powdered starch, and 12 of double refined sugar, made into a mass for troches with water.

Similar in uses to the lozenges of starch. See N<sup>o</sup> 369.

251. PARIETARIA OFFICINALIS. PARIETARIA, L. Pellitory of the wall.

#### Order 2. DIOECIA.

252. FRAXINUS ORNUS, E. L. D. Manna-ash. Manna.

A mild purgative, well suited to children, but requiring some gentle aromatic to prevent griping. Dose from a dram to half an ounce. Best in composition with fenna.

#### Official Preparation.

a. SYRUPUS MANNÆ, D. Syrup of manna.

Prepared by macerating half an ounce of fenna in one pound of boiling water for twelve hours in a covered vessel, straining the liquor, and adding one pound of manna, and one pound of double refined sugar, to make a syrup.

This forms an excellent purgative for children.

253. PANAX QUINQUEFOLIUM. GINSENG, L. Ginseng root.

A Chinese root, formerly much in repute as a stimulant, but now out of fashion.

#### Order 3. TRIOECIA.

254. FIGUS CARICA, E. CARICA, L. D. Figs. Figs. See BOTANY, p. 282.

A gentle laxative, used chiefly in composition.

CLASS XXIV. CRYPTOGAMIA. Order 1. FRILICES.

255. POLYPODIUM FILIX MAS, E. FILIX, L. Male fern root.



History of Simple and Official Medicines. **FILIX MAS, D.** Male fern root. See BOTANY, p. 285.

This substance has been in great repute as an anthelmintic, especially in cases of tænia, given in doses of a dram or two, followed by a strong cathartic.

## Order 3. ALGÆ.

256. **LICHEN ISLANDICUS.** Iceland liver-wort.

This lichen has lately become a fashionable remedy as an emollient, in pulmonary consumption. It contains a great quantity of farinaceous and mucilaginous matter, and is therefore highly nutritious.

See Synopsis *Materiæ Medicæ*, and *Thesaurus Medicaminum*.

## Order 4. FUNGI.

257. **BOLETUS IGNIARIUS, E. AGARICUS.** Female agaric.

This substance has been much celebrated as a styptic; and before ligatures were so much employed, was used to stop hæmorrhage from the mouths of bleeding vessels during surgical operations. It is now out of fashion.

## Appendix. PALMÆ.

258. **COCOS BUTYRACEA. PALMA, E.** Mackaw tree. *Palm oil.* See BOTANY, p. 289.

A vegetable oily matter, employed as an external emollient.

## CHAP. III. MINERAL SUBSTANCES.

## SECT. I. Water.

259. **AQUA.** Water.

Though simple water forms no part of the *Materia Medica* in the *Pharmacopœias*, it is an article of so much importance, both in diet and medicine, that it ought not to be omitted here. We shall therefore make no apology for inserting the following neat account of it, given by Dr Duncan in the later editions of his *Dispensatory*.

"The chemical properties of water have been already enumerated. (See CHEMISTRY, N<sup>o</sup> 384, *et seq.*) The purest natural water is snow or rain water collected in the open fields; that which falls in towns, or is collected from the roofs of the houses, is contaminated with foot, animal effluvia, and other impurities; although, after it has rained for some time, the quantity of these diminishes so much, that Morveau says that it may be rendered almost perfectly pure by means of a little barytic water, and exposure to the atmosphere. Rain water, after it falls, either remains on the surface of the earth, or penetrates through it, until it meets with some impenetrable obstruction to its progress, when it bursts out at some lower part, forming a spring, or well. The water on the surface of the earth, either descends along its declivities in streams, which gradually wearing channels for themselves, combine to form rivers, which at last reach the sea; or remains stagnant in cavities of considerable depth, forming lakes or ponds, or on nearly level ground, forming marishes.

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"The varieties of spring water are exceedingly numerous; but they may be divided into soft, which are sufficiently pure to dissolve soap, and to answer the purposes of pure water in general; the hard, which contain earthy salts, and decompose soap, and are unfit for many purposes, both in domestic economy, and in manufactories; and the saline, which are strongly impregnated with soluble salts. When spring waters possess any peculiar character, they are called *mineral waters*. River water is in general soft, as it is formed of spring water, which, by exposure becomes more pure; and running surface water, which, although turbid from particles of clay suspended in it, is otherwise very pure. Lake water is similar to river water. The water of marishes, on the contrary, is exceedingly impure, and often highly fetid, from the great proportion of animal and vegetable matters which is constantly decaying in them.

"Mineral waters derive their peculiarity of character, in general, either from containing carbonic acid or soda not neutralized, sulphurated hydrogen, purging salts, earthy salts, or iron; or from their temperature exceeding in a greater or less degree that of other surrounding bodies. The following are the most celebrated.

"*a. Warm Springs.*—Bath, Bristol, Buxton, Matlock, Warm in England. Barege, Vichy, &c. in France. Aix-la-Chapelle, Borfet, Baden, Carlsbad and Toeplitz in Germany; and Pisa, Lucca, Baia, and many others in Italy.

"*b. Carbonated Springs.*—Pymont, Seltzer, Spa, Cheltenham, Scarborough.

"*c. Alkaline.*—Carlsbad, Aix-la-Chapelle, Barege, Toeplitz.

"*d. Sulphureous.*—Enghien, Lu, Aix-la-Chapelle, Kelburn, Harrogate, Moffat, and many in Italy.

"*e. Purging.*—Sea water, Lemington Priors, Harrogate, Lu, Carlsbad, Moffat, Toeplitz, Epsom, Sedlitz, Kelburn, and all brackish waters.

"*f. Calcareous.*—Matlock, Buxton, and all hard waters.

"*g. Chalybeate.*—Hartfell, Denmark, Cheltenham, Pymont, Spa, Tunbridge, Bath, Scarborough, Vichy, Carlsbad, Lemington Priors.

"*Medical use.*—Water is an essential constituent in the organization of all living bodies; and as it is continually expended during the process of life, that waste must be also continually supplied; and this supply is of such importance, that it is not left to reason or to chance, but forms the object of an imperious appetite. When taken into the stomach, water acts by its temperature, its bulk, and the quantity absorbed by the lacteals. Water about 60 degrees, gives no sensation of heat or cold; between 60 degrees and 45, it gives a sensation of cold followed by a glow and increase of appetite and vigour; below 45, the sensation of cold is permanent and unpleasent, and it acts as an astringent and sedative; above 60, it excites nausea and vomiting, probably by partially relaxing the fibres of the stomach, for when mixed with stimulating substances it has not these effects. In the stomach and in the intestines it acts also by its bulk, producing the effects arising from the distension of these organs; and as the intestinal gases consist of hydrogen gas, either pure, or carbonated, or sulphurated, or phosphorated, it is probably in part decomposed in them. It likewise dilutes the contents of the stomach and intestines, thus often diminishing



minishing their acrimony. It is absorbed by the lacteals, dilutes the chyle and the blood, increases their fluidity, lessens their acrimony, and produces *plethora ad molem*. Its effects in producing plethora and fluidity are, however, very transitory, as it at the same time increases the secretion by the skin and kidneys. Indeed the effects of sudorifics and diuretics depend in a great measure on the quantity of water taken along with them.

“ Mineral waters have also a specific action, depending on the foreign substances which they contain. It is however, necessary to remark, that their effects are in general much greater than might be expected from the strength of their impregnations, owing probably to the very circumstance of their great dilution, by which every particle is presented in a state of activity, while the lacteals admit them more readily than they would in a less diluted state.

“ Carbonic acid gas gives to the waters which are strongly impregnated with it, a sparkling appearance, and an agreeable degree of pungency. In its effects on the body it is decidedly stimulant, and even capable of producing a certain degree of intoxication. It is of great service in bilious complaints, atony of the stomach, nausea, and vomiting, and in all fevers of the typhoid type.

“ Alkaline waters produce also a tonic effect on the stomach, but they are less grateful. They are particularly serviceable in morbid acidity of the stomach, and in diseases of the urinary organs.

“ Sulphureous waters are chiefly used in cutaneous and glandular diseases. Their effects are stimulant and heating, and they operate by the skin or bowels.

“ Purging waters derive their effects from the neutral salts they contain, especially the muriates of soda, lime, and magnesia, and the sulphates of soda and magnesia. They are much more frequently used for a length of time to keep the bowels open by exciting the natural action, than to produce full purging. Used in this way, instead of debilitating the patient, they increase his appetite, health, and strength.

“ Chalybeate waters are used as tonics. They stimulate considerably, and increase the circulation; but as they also generally contain neutral salts, they act as gentle laxatives. They are used in all cases of debility, cachexia, chlorosis, fluor albus, amenorrhœa; and, in general, in what are called nervous diseases.

“ The external use of water depends almost entirely on its temperature, which may be

“ 1. Greater than that of the body, or above 97° Fahr. The hot bath.

“ 2. Below the temperature of the body.

a. From 97 to 85, the warm bath.

b. From 85 to 65, the tepid bath.

c. From 65 to 32, the cold bath.

“ The hot bath is decidedly stimulant in its action. It renders the pulse frequent, the veins turgid, the face flushed, the respiration quick; increases animal heat, and produces sweat. If the temperature be very high, the face becomes bathed in sweat, the arteries at the neck and temples beat with violence, anxiety and a sense of suffocation are induced; and if persisted in, vertigo, throbbing in the heart, and apoplexy, are the consequences. It is very rarely employed in medicine,

except where there are hot springs, as at Baden in Switzerland.

“ The Russians and some other nations use the hot bath as an article of luxury.

“ The effects of the affusion of hot water have not been ascertained, and it is probable, that when the heat is not so great as to destroy the organization of the skin, the very transient application of the water would be more than counteracted by the subsequent evaporation.

“ With regard to the action arising from their temperature, all baths below 97° differ only in degree, as they all ultimately abstract caloric from the surface, but with a force inversely as their temperature.

“ The warm bath excites the sensation of warmth, partly because our sensations are merely relative, and partly because its temperature, though less than that of the internal parts of the body, is actually greater than that of the extremities, which are the chief organs of touch. But as water is a much better conductor of caloric than air, and especially than confined air, as much caloric is abstracted from the body by water which is a few degrees lower than the external temperature of the body, as by air of a much lower temperature. The warm bath diminishes the frequency of the pulse, especially when it has been previously greater than natural; and this effect is always in proportion to the time of immersion. It also renders the respiration slower, and lessens the temperature of the body, relaxes the muscular fibre, increases the bulk of the fluids by absorption, removes impurities from the surface, promotes the desquamation and renewal of the cuticle, and softens the nails and indurations of the skin.

“ The stimulant power of the warm bath is therefore very inconsiderable, and its employment in disease will be chiefly indicated by preternatural heat of the surface, and frequency of the pulse, rigidity of the muscular fibre, and morbid affections of the skin. It has accordingly been found serviceable in many cases of pyrexia, both febrile and exanthematous, in many spasmodic diseases, and in most of the impetiginous. It is contraindicated by difficulty of breathing and internal organic affections, and should not be used when the stomach is full.

“ The affusion of warm water very generally produces a considerable diminution of heat, a diminished frequency of pulse and respiration, and a tendency to repose and sleep; but its effects are not very permanent, and its stimulus is weak. It is recommended in febrile diseases, depending on the stimulus of preternatural heat, and in those attended with laborious respiration, and in the paroxysms of hectic fever.

“ As the tepid bath and affusion produce effects intermediate between those and cold water, it is unnecessary to enumerate them.

“ The cold bath produces the sensation of cold, which gradually ceases, and is succeeded by numbness. It excites tremor in the skin, and shivering. The skin becomes pale, contracted, and acquires the appearance termed *cutis asserina*. The fluids are diminished in volume, the solids are contracted, the caliber of the vessels is lessened, and therefore numbness and paleness are induced, and the visible cutaneous veins become smaller. There is a sense of drowsiness and inactivity, the joints become rigid and inflexible, and the limbs

are

814  
External  
use of wa-  
ter.

815  
Hot bath.

816  
Warm  
bath.

817  
Affusion of  
warm wa-  
ter.

818  
Cold bath.



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are affected with pains and spasmodic contractions. The respiration is rendered quick and irregular, the pulse slow, firm, regular, and small; the internal heat is at first diminished, but gradually and irregularly returns nearly to its natural standard; the extremities, however, continue cold and numb, or swollen and livid; the perspiration is suppressed, and the discharge of urine is rendered more frequent and copious. If the cold be excessive on its application, long-continued violent shiverings are induced, the pulse ceases at the wrist, the motion of the heart becomes feeble and languid, there is a sensation of coldness and faintness at the stomach, and a rapid diminution of animal heat; and, at last, delirium, torpor, and death, are the consequences. If the application of the cold bath be not carried to an excessive length, on emerging from the water the whole body is pervaded by an agreeable sensation of warmth, and the patient feels refreshed and invigorated.

"The primary action of the cold bath is stimulant, and the degree of this action is in proportion to the lowness of its temperature. This opinion is indeed directly opposite to a theory of cold which has been advanced with the confidence of demonstration. "Heat is a stimulus, cold is the abstraction of heat; therefore cold is the abstraction of stimulus, or is a sedative." To this we might oppose another theory, equally syllogistic, and nearer the truth. Free caloric is a stimulus, cold is the sensation excited by the passage of free caloric out of the body; therefore cold is a stimulus. But, in fact, the action of cold is by no means so simple. It is complicated, and varies according to its intensity, duration, and the state of the system to which it is applied. It acts at first as a stimulant, in exciting sensation; then as a tonic, in condensing the living fibre; and, lastly, however paradoxical it may appear, as a sedative, by preventing that distribution of blood in the minute and ultimate vessels, which is necessary for the existence of sensibility and irritability, and by the abstraction of the stimulus of heat.

"The cold bath may be so managed as to procure any of these effects, by regulating the length of time for which it is applied.

819  
Cold affu-  
sion.

"Cold affusion, or the pouring of cold water over the body, is a very convenient way of applying the cold bath in many cases. In this way cold is very suddenly applied to the surface, its operation is instantaneous and momentary; but may be continued by repeated affusions for any length of time, and so as to produce its extreme effects. Where the effects of cold affusion may be thought too severe, sprinkling the body with cold water, or water and vinegar, may be substituted.

"The application of cold may be employed in fevers and febrile paroxysms, when the heat is steadily above the natural standard, and in many diseases arising from relaxation and debility. It is contraindicated when the heat of the body is below 97°, when there is any notable perspiration from the surface; and when there is general plethora. Debilitated habits should be defended from the violence of its action, by covering the body with flannel.

"In yellow fever, especially in those cases in which the heat of the skin is excessive, it is particularly useful, and ought to be long continued. In phrenitis and

other local inflammations, it promises to be of advantage. In gout its effects are doubtful, being in some instances salutary, in others destructive. A criterion to enable us to determine when it ought or ought not to be resorted to, is much wanted. In inflammatory rheumatism and rheumatic gout it is decidedly useful. It is of advantage in all the hemorrhagies and exanthemata; in tetanus, colic, cholera, hysteria, mania, ichuria, and in burns; and, in general, in all those local diseases in which solutions of acetate of lead, of muriate of ammonia, &c. are usually employed; for the good effects of these depend entirely on the diminished temperature.\*"

For more respecting the utility of the cold affusion, see Currie's "Medical Reports;" and for an excellent account of the effects and uses of baths, see Marcard *de la Nature et de l'Usage des Bains*, and a Treatise on Cold and Warm Bathing, lately published at Edinburgh.

\*Duncan's  
Dispensatory, 3<sup>d</sup>  
edit. p. 165.

#### Official Preparation.

a. AQUA DESTILLATA, E. AQUA DISTILLA-  
TA, L. D. Distilled water. 820  
Distilled  
water.

From 10 gallons of spring water, the London college directs four gallons to be drawn off, throwing away the first four pints that come over. The Dublin college directs 10 pounds to be distilled from 20 pounds, throwing away the first pound; while the college of Edinburgh directs water to be distilled in very clean vessels till two-thirds have come over.

#### SECT. II. Inflammable Substances.

260. SULPHUR SUBLIMATUM, E. L. D. FLORES  
SULPHURIS. Sublimed sulphur. *Flowers of sul-  
phur.* 821  
Sublimed  
sulphur.

For an account of the chemical nature and properties of sulphur, see CHEMISTRY, Chap. ix.

As a medicine, sulphur is employed both internally and externally. Internally it is given as a laxative, in the dose of a dram or two, and as a diaphoretic in smaller doses. Externally it is one of the most certain remedies for the itch, and some other cutaneous affections.

#### Official Preparations.

a. SULPHUR SUBLIMATUM LOTUM, E. D. FLO-  
RES SULPHURIS LOTI, L. Washed sublimed  
sulphur. *Washed flowers of sulphur.* 822  
Washed  
sublimed  
sulphur.

Sublimed sulphur is freed from the sulphurous acid, which it has imbibed in the preparation, by boiling it for a little in four times its weight of water, and after pouring off the water in which it was boiled, washing it by repeated affusions of cold water, till it no longer imparts acidity to the water.

Sublimed sulphur should always be washed before being used internally, otherwise it is very apt to disorder the stomach and bowels.

b. OLEUM SULPHURATUM, E. L. Sulphurated oil. 823  
Sulphurat-  
ed oil.

Prepared by boiling one part of sublimed sulphur in eight of olive oil (E.), or one part to four parts (L.), in a large iron pot, till they are thoroughly united. Formerly



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much used as an expectorant in coughs, in a dose of from ten to 40 drops, but now seldom used, except as an external application to foul ulcers.

by boiling half a pound of it in a pint of distilled water, and setting aside the solution to crystallize.

Succinic acid is now scarcely employed in medicine.

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824  
Sulphurated  
petroleum.

c. PETROLEUM SULPHURATUM, L. Sulphurated petroleum.

Prepared in the same manner as the last, with oil of petroleum, and used for the same purpose.

825  
Ointment  
of sulphur.

d. UNGUENTUM SULPHURIS, E. L. D. Ointment of sulphur.

Prepared by mixing half a pound (L.) or five ounces (D.) of ointment of hogs-lard, with four ounces (L.) or three ounces (D.) of flowers of sulphur; or four parts of hogs-lard, with one of sublimed sulphur, adding to each pound of the ointment, half a dram of volatile oil of lemons, or volatile oil of lavender (E.).

An excellent application in the itch. Ordinary quantity for an adult about four ounces, which should be rubbed in at once.

826  
Sulphuret  
of potash.

e. SULPHURETUM POTASSÆ, E. KALI SULPHURATUM, L. ALKALI VEGETABILE SULPHURATUM, D. HEPAR SULPHURIS. Sulphuret of potash. *Sulphurated kali. Sulphurated vegetable alkali. Liver of sulphur.*

For the preparation and chemical properties of this substance, see CHEMISTRY, N° 918.

Sulphuret of potash is seldom employed in medicine, except as a remedy in violent mercurial salivation, in which it is said to be very effectual\*. It has lately been much recommended, dissolved in lime water, as an effectual external application in *tinea capitis*.

\* See Kirby's Tables, p. 43.

827  
Precipitated  
sulphur.

f. SULPHUR PRÆCIPITATUM, L. D. Precipitated sulphur.

Prepared by dissolving six ounces (L.) or four ounces (D.) of sulphuret of potash, in one pound and a half of distilled water, and adding diluted sulphuric acid (L.) or diluted nitrous acid (D.), as long as there is any precipitation. The precipitate is then to be separated by the filter, and washed till it has lost all acidity, and then dried.

Similar in its nature to washed sublimed sulphur, but considered as rather milder.

828  
Amber.

261. SUCCINUM, E. L. D. Amber. See CHEMISTRY, N° 2476.

Amber in its natural state is not employed in medicine, except to make the following

#### Official Preparations.

829  
Succinic  
acid.

a. ACIDUM SUCCINI, E. SAL SUCCINI, D. L. Succinic acid. *Salt of amber.*

830  
Oil of am-  
ber.

b. OLEUM SUCCINI, E. L. D. Oil of amber.

For the preparation and chemical properties of these substances, see CHEMISTRY, N° 724, *et seq.*

831  
Purified salt  
of amber.

c. SAL SUCCINI PURIFICATUS, L. Purified salt of amber.

The London college directs this acid to be purified

d. OLEUM SUCCINI PURISSIMUM, E. OLEUM SUCCINI RECTIFICATUM, L. D. Purified oil of amber.

The Edinburgh college directs oil of amber to be purified by distilling it in a glass retort with six times its quantity of water, till two-thirds of the water have passed into the receiver; when the pure volatile oil comes over, it is to be separated from the water, and preserved in vessels closely stopped. The processes of the other colleges do not materially differ from this.

Oil of amber is a powerful stimulant and antispasmodic, useful in hysterical and similar disorders. Dose 10 or 12 drops. Used also externally in paralysis and rheumatisms.

262. BITUMEN PETROLEUM, E. PETROLEUM, L. PETROLEUM BARBADENSE, D. Petroleum or rock oil. *Barbadoes tar.*

#### Official Preparation.

a. OLEUM PETROLEI, L. Oil of petroleum.

Prepared by distilling petroleum in a sand bath.

Employed as a stimulant and antispasmodic. Dose from 10 to 30 drops. Also used as an external stimulant in strains and rheumatisms.

#### SECT. III. Acids.

263. ACIDUM SULPHURICUM, E. ACIDUM VITRIOLICUM, L. D. Sulphuric acid. *Vitriolic acid.*

For the preparation and chemical properties of sulphuric acid, see CHEMISTRY, Chap. x. Sect. 1.

Undiluted sulphuric acid is seldom employed in medicine, except as an external stimulant and rubefacient, in combination with fatty substances.

#### Official Preparations.

a. ACIDUM SULPHURICUM DILUTUM, E. ACIDUM VITRIOLICUM DILUTUM, L. D. Diluted sulphuric acid. *Diluted vitriolic acid. Spirit of vitriol.*

One part of sulphuric acid mixed with seven of water (E.), or one ounce with eight ounces of water (L.), or two ounces, with 14 ounces of water, (D.).

Diluted sulphuric acid is employed as a refrigerant in fevers, astringent in hemorrhages, and tonic in dyspepsia. Dose from 20 drops to a dram.

b. ACIDUM SULPHURICUM AROMATICUM, E. Aromatic sulphuric acid. Elixir of vitriol.

Prepared by first mixing two pounds of alcohol with six pounds of sulphuric acid, by gradually dropping the acid into the alcohol; digesting this mixture with a very gentle heat in a close vessel, for three days; and adding one ounce and a half of bruised cinnamon, and one ounce of bruised ginger; digesting again in a close

837  
Aromatic  
sulphuric  
acid.



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close vessel, for six days, and filtering the tincture through paper in a glass funnel.

An excellent stimulant and tonic, well suited to dyspeptic complaints. Dose from 15 to 40 drops.

<sup>838</sup>  
Sulphate of  
potash.

*c.* SULPHAS POTASSÆ, E. KALI VITRIOLATUM, L. ALKALI VEGETABILE VITRIOLATUM, D. Sulphate of potash. *Vitriolated kali. Vitriolated vegetable alkali. Vitriolated tartar.*

For the nature and properties of this salt, see CHEMISTRY, N° 925, *et seq.*

The Edinburgh college directs this salt to be prepared by an immediate combination of sulphuric acid diluted with six times its weight of water, with as much pure carbonate of potash, dissolved also in six times its weight of water, as is sufficient to neutralize the acid. The salt is procured from the solution by evaporation and crystallization. The other colleges obtain this salt by dissolving the saline mass that remains after the distillation of nitrous acid, filtering and crystallizing as before.

Sulphate of potash is a mild purgative, and may be given in a dose of four or five drams, but it requires a large quantity of water for its solution. It is employed chiefly to assist in the pulverization of opium, scammony, &c.

<sup>839</sup>  
Sulphate of  
potash with  
sulphur.

*d.* SULPHAS POTASSÆ CUM SULPHURE, E. SAL POLYCHRESTUS. Sulphate of potash with sulphur. *Sal polychrest.*

Prepared by mixing together equal parts of powdered nitrate of potash and sublimed sulphur; injecting the mixture gradually into a red hot crucible; and, when the deflagration ceases, allowing the salt to cool, and putting it into a vessel that is to be closely stopped.

Similar in its effects with the last, but more easily prepared.

#### SECT. IV. *Alkalies and Alkaline Salts.*

<sup>840</sup>  
Impure  
carbonate  
of soda.

264. CARBONAS SODÆ IMPURUS, E. BARYLLA, L. D. Impure carbonate of soda. *Barilla. Fixed mineral alkali.*

#### *Official Preparations.*

<sup>841</sup>  
Carbonate  
of soda.

*a.* CARBONAS SODÆ, E. NATRON PREPARATUM, L. ALKALI FOSFICUM, D. Carbonate of soda. *Vitriolated natron. Mild fissil alkali.*

Prepared by boiling impure carbonate of soda, bruised or powdered barilla, till all the salt is dissolved, then filtering the liquor, and setting it by to crystallize.

For an account of the nature and properties of this salt, see CHEMISTRY, N° 1085.

Employed in medicine chiefly as an antacid and lithontriptic. Dose from 10 to 30 grains.

<sup>842</sup>  
Water of  
supercarbo-  
nate of so-  
da.

*b.* AQUA SUPERCARBONATIS SODÆ, E. Water of supercarbonate of soda.

Prepared by passing a stream of carbonic acid gas through a solution of carbonate of soda, as was directed for preparing the water of carbonate of potash. See N° 315.

This preparation is supposed to be a powerful lithontriptic, and the occasional use of it certainly appears to prevent the formation of uric acid. It may be drunk in the quantity of half a pint or a pint during the day.

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*c.* PHOSPHAS SODÆ, E. Phosphate of soda.

<sup>843</sup>  
Phosphate  
of soda.

For the preparation and nature of this salt, see CHEMISTRY, N° 1075, *et seq.*

An excellent laxative, preferable to most other saline cathartics, from its taste being but little unpleasant. Dose from one to two ounces, which is best taken dissolved in soup, beef tea, or gruel.

265. NITRAS POTASSÆ, E. NITRUM, L. D. Nitrate of potash. *Nitre. Saltpetre.* See CHEMISTRY, N° 942, *et seq.*

<sup>844</sup>

Nitrate of potash is used in medicine as a diaphoretic, diuretic, and refrigerant. Dose from five to 20 grains.

#### *Official Preparations.*

*a.* NITRUM PURIFICATUM, L. Purified nitre. Purified by solution in boiling water, filtration, and crystallization.

<sup>845</sup>  
Purified  
nitre.

*b.* ACIDUM NITROSUM, E. L. D. Nitrous acid. *Fuming spirit of nitre.*

<sup>846</sup>  
Nitrous  
acid.

Prepared by decomposing nitrate of potash by sulphuric acid, in the manner mentioned under CHEMISTRY, Chap. x. Sect. 3.

It is in this state that the acid obtained from nitrate of potash is generally employed in medicine, though for certain purposes the nitric acid is to be preferred. These acids are employed as refrigerants and diuretics, largely diluted, and in small doses, viz. from five to 20 drops, and also as tonics and general stimulants, as mentioned below. Externally they act as stimulants or escharotics, according to their strength.

*c.* ACIDUM NITROSUM DILUTUM, E. L. D. Diluted nitrous acid. *Aqua fortis.*

<sup>847</sup>  
Diluted ni-  
trous acid.

Prepared by mixing equal weights of nitrous acid and water, taking care to avoid the noxious fumes. Uses the same as of the last; but the diluted acid is better calculated for internal exhibition. Doses about double those of nitrous acid.

*d.* ACIDUM NITRICUM, E. Nitric acid.

<sup>848</sup>  
Nitric acid.

Prepared by redistilling nitrous acid in a retort with an adopted receiver, with a very gentle heat, till the red portion has passed over, and the remaining acid has acquired the state of nitric acid. See CHEMISTRY as above.

This is the acid which has been so much recommended of late as a cure for syphilis, in which it is administered, diluted with water in the proportion of a dram to a pint, which is to be taken at intervals through the day, sucking it through a quill or glass tube, to avoid injuring the teeth, and gradually augmenting the quantity as far as the stomach will bear. Though the advantages of nitric acid in syphilitic complaints appear to have been overrated, it is no doubt a valuable succedaneum to mercury, and has, we believe, been of service in cases where mercurial preparations were inadmissible, or unsuccessful. Nitric acid, in its nascent state,



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849  
Ointment of nitrous acid.

state, as procured by an extemporaneous decomposition of nitre by sulphuric acid, has been found of advantage as a fumigation in correcting putrid effluvia.

e. UNGUENTUM ACIDI NITROSI, E. Ointment of nitrous acid. *Oxygenated ointment.*

Prepared by gradually mixing six drams of nitrous acid with one pound of melted hog's lard, and continually agitating the mixture as it cools.

A good remedy in herpes, lepra, and some other cutaneous affections, and said to have succeeded as a substitute for mercurial ointment.

850  
Spirit of nitrous ether.

f. SPIRITUS ÆTHERIS NITROSI, E. L. LIQUOR ÆTHEREUS NITROSUS, D. Spirit of nitrous ether. *Ethereal nitrous liquor. Sweet spirit of nitre.*

About three parts of alcohol and one of nitrous acid, gradually mixed together, distilling over the spirit from a water bath.

Diuretic, stimulant, and tonic. Dose 20 drops to a dram.

851  
Muriate of foda.

266. MURIAS SODÆ, E. SAL MURIATICUS, L. SAL COMMUNIS, D. SAL MARINUS. Muriate of foda. *Sea salt. Common salt.* See CHEMISTRY, N<sup>o</sup> 1046.

Muriate of foda is employed as a laxative and anthelmintic. In the former way it is usually administered in clysters; in the latter it is given by the mouth, in the dose of half a dram to an ounce or more. Externally, when dried by heat, it is used as a stimulant and rubefacient.

#### Official Preparations.

852  
Dried muriate of foda.

a. MURIAS SODÆ EXSICCATUS, E. SAL COMMUNIS EXSICCATUS, D. Dried muriate of foda.

Muriate of foda is dried by roasting it over the fire in a wide iron vessel, with occasional agitation, till it ceases to decrepitate.

853  
Muriatic acid.

b. ACIDUM MURIATICUM, E. L. D. Muriatic acid. *Marine acid. Spirit of sea salt.*

Prepared by decomposing muriate of foda by sulphuric acid, in the manner described under CHEMISTRY, Chap. x. Sect. 5.

Muriatic acid is used in medicine as a refrigerant, diuretic, and stimulant. Dose from 10 drops to 40 or 50. It is a good medicine in low fevers, largely diluted and sweetened with sugar. In its nascent state, as obtained by the extemporaneous decomposition of muriate of foda by sulphuric acid, it is an excellent fumigation, and in this respect is perhaps to be preferred to the nitric acid.

854  
Sulphate of foda.

c. SULPHAS SODÆ, E. NATRON VITRIOLATUM, L. ALKALI FOSSILE VITRIOLATUM, D. SAL GLAUBERI. Sulphate of foda. *Vitriolated natron. Vitriolated mineral alkali. Glauber's salt.*

Usually prepared by dissolving and neutralizing the acidulous salt remaining after the preparation of muriatic acid, filtering the liquor, evaporating, and setting it aside to crystallize. See CHEMISTRY, N<sup>o</sup> 1030.

A good purgative, but not suited to all stomachs. Dose from one to two ounces.

267. SUBBORAS SODÆ. BORAS SODÆ, E. BORAX, L. D. Subborate of foda. *Borax.* See CHEMISTRY, N<sup>o</sup> 1067.

Sometimes given internally as a diuretic; but generally employed as a detergent to aphthous crusts and ulcerations in the mouth and fauces, either by way of lotion, or made into a linctus with syrup or honey.

#### SECT. V. Soaps.

268. SAPO HISPANUS. SAPO, E. Spanish or Castile soap.

The Edinburgh and London colleges particularize the soap that should be used in medicine, as prepared of olive oil and foda.

On the nature and properties of soap, see CHEMISTRY.

Soap is employed both internally and externally. Internally it acts as a gentle laxative, and is supposed to possess lithontriptic powers. In this latter way it has been given in the quantity of from half an ounce to an ounce in the day. Excepting with this intention, it is seldom given alone. Externally it is used as a stimulant and detergent, under the various forms mentioned below.

#### Official Preparations.

a. TINCTURA SAPONIS, E. LINIMENTUM SAPONIS COMPOSITUM, L. LINIMENTUM SAPONACEUM, D. Tincture of soap. *Compound liniment of soap. Saponaceous liniment. Opodeldoc.*

The Edinburgh tincture is prepared by digesting four ounces of soap shavings in two pounds of alcohol for three days; then adding to the filtered liquor two ounces of camphor and half an ounce of volatile oil of rosemary, agitating them diligently. The London liniment is composed of three ounces of soap, one ounce of camphor, and one pint of spirit of rosemary; that of the Dublin college of two ounces of Castile soap, one ounce of camphor, eight ounces of alcohol, and the same of water, and two scruples of essential oil of rosemary.

b. TINCTURA SAPONIS ET OPII, E. LINIMENTUM ANODYNUM. Tincture of soap and opium. *Anodyne liniment.*

Prepared in the same manner as the last with the addition, from the beginning, of one ounce of opium.

These tinctures or liniments are excellent stimulant applications in cases of sprains, rheumatic pains, and similar affections; and the latter of them has been found useful when applied to the tumid belly of children that are threatened with rickets.

c. CERATUM SAPONIS, L. D. Soap cerate.

Prepared by boiling one pound of powdered litharge with a gallon or eight pounds (D.) of vinegar, over a slow fire, with constant agitation, till the mixture combines and thickens; then adding eight ounces of soap, 10 ounces of yellow wax, and a pint or 14 ounces (D.) of olive oil, and continuing the heat and agitation till they are united to form a cerate.

d. EMPLASTRUM SAPONIS, L. EMPLASTRUM SAPONACEUM, E. D. Soap plaster.

Prepared by mixing one part of soap with six of melted



History of Simple and Official Medicines. melted litharge plaster (L. D.), or one part of sliced soap, with four of plaster of semivitrified oxide of lead, and two parts of gum plaster melted together, (E.). These are intended as discutient applications.

SECT. VI. *Earths and Earthy Salts.*

<sup>861</sup> Sulphate of baryta. 269. SULPHAS BARYTÆ, E. TERRA PONDEROSA VITRIOLATA. BARYTES. Sulphate of Baryta. *Vitriolated ponderous earth. Barytes.* See CHEMISTRY, N° 1256, *et seq.*

Employed in medicine only for preparing the muriate of baryta.

<sup>862</sup> Carbonate of baryta. 270. CARBONAS BARYTÆ, E. TERRA PONDEROSA. Carbonate of baryta. *Heavy spar.* See CHEMISTRY, as above.

*Official Preparations.*

<sup>863</sup> Muriate of baryta. a. MURIAS BARYTÆ, E. Muriate of baryta.

Prepared by dissolving carbonate of baryta broken into small pieces in a mixture of one part of muriatic acid and three of water, filtering the liquor, evaporating and crystallizing. Where the carbonate of baryta cannot be procured, this salt is obtained from the sulphate, by a very complex process, for which see Duncan's Dispensatory, and CHEMISTRY as above.

<sup>864</sup> Solution of muriate of baryta. b. SOLUTIO MURIATIS BARYTÆ, E. Solution of muriate of baryta.

Prepared by dissolving one part of crystallized muriate of baryta in three of water.

This has been recommended as a powerful stimulant and tonic, in a variety of diseases. We believe it has been of service in some cases of scrophula. Dose from five to ten drops, twice or thrice a-day.

<sup>865</sup> Lime. 271. CALX, L. CALX VIVA, E. CALX RECENTENS USTA, D. Lime. *Quicklime.* See CHEMISTRY, Chap. xiii. Sec. 1.

Lime in substance is scarcely employed in medicine, except by way of caustic, mixed with soft soap or pot-ash.

*Official Preparation.*

<sup>866</sup> Lime-water. a. AQUA CALCIS, E. L. D. Lime water.

This is a saturated solution of fresh burnt quicklime in water. After being made, it should be kept in vessels that are not too large, and carefully stopped, that it may not imbibe carbonic acid from the air.

Lime-water is employed as an antacid and astringent, a tonic, and an anthelmintic. Dose internally from two to four ounces. As an anthelmintic it is used in the way of clyster, to destroy ascarides. It is also employed externally as a stimulant and detergent.

<sup>867</sup> Liniment of lime-water. b. LINIMENTUM AQUÆ CALCIS. OLEUM LINI CUM CALCE, E. Liniment of lime, or *Lintseed oil with lime.*

Prepared by mixing equal parts of lintseed oil and lime-water.

A useful application to recent scalds and burns.

272. CARBONAS CALCIS, E. Carbonate of lime. CARBONAS CALCIS MOLLIOR, E. CRETA, L. D. Chalk. CARBONAS CALCIS DURIOR, E. MARMOR. Marble. See CHEMISTRY, N° 1230, *et seq.*

Carbonate of lime in its soft state is much employed in medicine as an antacid, and when powdered or prepared, it is applied externally to scalds and burns, and to cancerous sores.

*Official Preparations.*

a. CARBONAS CALCIS PRÆPARATUS, E. CRETA PRÆPARATA, L. D. Prepared carbonate of lime. *Prepared chalk.*

This is chalk reduced to a very fine powder by trituration, levigation, diffusion in water, filtration, and drying. Ordinary dose as an antacid, from 15 grains to a dram.

b. POTIO CARBONATIS CALCIS, E. MISTURA CRETACEA, L. D. Chalk potion.

Prepared, according to the Edinburgh college, by triturating an ounce of prepared carbonate of lime with two ounces of mucilage of gum arabic, and half an ounce of double-refined sugar; then adding gradually two pounds and a half of water, and two ounces of spirit of cinnamon.

The London and Dublin mixture is prepared by mixing one ounce of prepared chalk, six drams of double-refined sugar, one ounce of powdered gum arabic, with two pints or 30 ounces (D.), of distilled water.

Employed as an antacid, especially in diarrhoea, accompanied by acidity in the intestinal canal. It may be taken *ad libitum*.

c. TROCHISCI CARBONATIS CALCIS, E. TROCHISCI CRETÆ, L. Troches of carbonate of lime. *Troches of chalk.*

Prepared of four ounces of carbonate of lime, one ounce of gum arabic, one dram of nutmeg, and six ounces of double-refined sugar, powdered together, and formed into a mass with water, (E.); or, of four ounces of prepared chalk, two ounces of prepared crabs claws, half an ounce of cinnamon, and three ounces of double-refined sugar, powdered and made into a mass with mucilage of gum arabic (L.). Used as the preceding.

d. PULVIS CARBONATIS CALCIS COMPOSITUS, E. PULVIS CRETÆ COMPOSITUS, L. Compound powder of carbonate of lime. *Compound powder of chalk.*

Prepared of four ounces of prepared carbonate of lime, half a dram of nutmeg, and half a dram of cinnamon powdered together (E.); or, of half a pound of prepared chalk, four ounces of cinnamon, three ounces of tormentil, and the same of gum arabic, and half an ounce of long pepper powdered separately, and mixed together (L.).

Used as antacids and tonics, in debility of the intestinal canal. Dose from 15 to 30 grains.

e. AQUA AERIS FIXI, D. Water impregnated with fixed air.

Prepared as

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368  
Carbonate of lime.  
869  
Chalk.  
870  
Marble.

871  
Prepared carbonate of lime.

872  
Chalk potion.

873  
Troches of carbonate of lime.

874  
Compound powder of carbonate of lime.

875  
Water impregnated with fixed air.



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Prepared by passing a stream of carbonic acid gas arising from the decomposition of three ounces of powdered white marble, and one half pound of diluted vitriolic acid, mixed with an equal quantity of water, through six pounds of pure spring water, in a Nooth's apparatus, with occasional agitation.

An excellent tonic, refrigerant, and anti-emetic.

876  
Solution of  
muriate of  
lime.

f. SOLUTIO MURIATIS CALCIS, E. Solution of muriate of lime.

Prepared by dissolving nine ounces of white marble broken to pieces, in sixteen ounces of muriatic acid, mixed with eight ounces of water; digesting for half an hour, pouring off the liquor, evaporating to dryness, dissolving the residuum in  $1\frac{1}{2}$  times its weight of water, and filtering the solution.

An excellent tonic, useful in cases of scrophula and scirrhus. Dose from 30 to 60 drops, twice or thrice a-day.

877  
Sulphate of  
magnesia.

273. SULPHAS MAGNESIÆ, E. MAGNESIA VITRIOLATA, L. D. SAL CATHARTICUS AMARUS. Sulphate of magnesia. *Vitriolated magnesia.* *Epsom salt.* See CHEMISTRY, Chap. xiii. Sect. 4.

Used as a purgative, in a dose of an ounce to an ounce and a half; as a tonic and gentle stimulant, in the dose of a dram or two diluted considerably, twice a-day.

*Official Preparations.*

878  
Carbonate  
of magne-  
sia.

a. CARBONAS MAGNESIÆ, E. MAGNESIA ALBA, L. D. Carbonate of magnesia. *White magnesia.*

Prepared by decomposing sulphate of magnesia by an equal weight of carbonate of potash, each previously dissolved in twice its weight of warm water, strained, and then mixed, instantly adding eight times their weight of warm water; then boiling the liquor for a little with agitation, and when the heat is a little diminished, straining the liquor through linen, and well washing the powder that remains on the filter with warm water, and drying.

An excellent antacid, and in cases of acidity, a laxative; also a good anti-emetic, where the sickness is accompanied with acidity. Dose from half a dram to a dram.

879  
Magnesia.

b. MAGNESIA, E. MAGNESIA USTA, L. D. Magnesia. *Burnt or calcined magnesia.*

This is pure magnesia, freed from carbonic acid, by keeping it in a red heat for two hours, and putting it up in closely stopped bottles.

Preferable to the former as an antacid, wherever the extrication of carbonic acid may be unpleasant, by producing flatulency, especially for children.

880  
Troches of  
magnesia.

c. TROCHISCI MAGNESIÆ, L. Troches of magnesia.

Prepared by triturating together four ounces of burnt magnesia, two ounces of double refined sugar, and a scruple of powdered ginger, and forming a mass for troches, with mucilage of gum arabic.

881  
Sulphate of  
alumine  
and potash.

274. SUPERSULPHAS ALUMINÆ ET POTASSÆ. SUL-

PHAS ALUMINÆ, E. ALUMEN, L. D. Sulphate of alumina and potash. *Alum.* See CHEMISTRY, N° 1418, *et seq.*

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Official  
Medicines.

Alum is employed both externally and internally as an astringent and tonic. Internally it is given chiefly in hæmorrhages; dose from ten grains to a scruple.

*Official Preparations.*

a. ALUMEN PURIFICATUM, L. Purified alum.

882  
Purified  
alum.

Prepared by boiling one pound of alum with one dram of chalk, in a pint of distilled water, straining and crystallizing.

b. SULPHAS ALUMINÆ EXSICCATUS, E. ALUMEN USTUM, L. Dried sulphate of alumina. *Burnt alum.*

883  
Dried sul-  
phate of  
alumina.

Alum is freed from its water of crystallization by melting it over the fire in an earthen or iron vessel, and keeping it there till it ceases to boil.

Employed as an escharotic, to destroy fungous excrescences.

c. AQUA ALUMINIS COMPOSITA, L. Compound alum water.

884  
Compound  
alum wa-  
ter.

Prepared by dissolving half a dram of alum, and the same of vitriolated zinc, in four ounces of distilled water.

Employed externally as a stimulant or astringent, especially in ophthalmia, and as an injection in leucorrhœa.

d. PULVIS SULPHATIS ALUMINÆ COMPOSITUS, E. PULVIS STYPTICUS. Compound powder of sulphate of alumina. *Styptic powder.*

885  
Compound  
powder of  
sulphate of  
alumina.

Composed of four parts of sulphate of alumina, and one part of kino, rubbed together to a fine powder.

Astringent. Dose from 15 to 30 grains.

e. CATAPLASMA ALUMINIS, L. COAGULUM ALUMINOSUM, D. Alum cataplasm. *Alum curd.*

886  
Alum curd.

Prepared by shaking any quantity of the white of egg with a piece of alum till a curd is formed.

A useful application to sore and watery eyes, spread on linen, and applied at bed-time.

275. BOLUS GALLICUS, L. French bole.

887  
French  
bole.

A clayey earth, formerly employed as an antacid or absorbent.

SECT. VII. *Metals and Metallic Preparations.*

275. ACIDUM ARSENIOSUM. OXIDUM ARSENIÆ, E. Arsenious acid. *Oxide of arsenic.* *White arsenic.* See CHEMISTRY, N° 1536, *et seq.*

888  
Arsenious  
acid.

For an excellent account of the effects of arsenic on the living body, the modes of obviating or counteracting them, and of its medical use, see Duncan's Dispensatory.

This substance is employed as a tonic in intermitent fever, but we consider it as a dangerous remedy. For the mode of preparing and exhibiting it, see

Duncan's



History of Simple and Official Medicines. Duncan's Dispensatory as above, and *Theaurus Medicaminum*.

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276. SULPHURETUM ANTIMONII, E. ANTIMONIUM, L. STIBIUM, D. Sulphuret of antimony.

889  
Sulphuret of antimony.

For the natural history and chemical nature of this substance, see *MINERALOGY Index*, and *CHEMISTRY*, Chap. xiv. sect. 12.

In its natural state, sulphuret of antimony is not employed in human medicine, except to form the following

*Official Preparations.*

890  
Prepared sulphuret of antimony.

a. SULPHURETUM ANTIMONII PRÆPARATUM, E. ANTIMONIUM PRÆPARATUM, L. STIBIUM PRÆPARATUM, D. Prepared antimony.

Reduced to a very fine powder in the same manner as chalk, &c.

891  
Oxide of antimony with sulphur.

b. OXIDUM ANTIMONII CUM SULPHURE PER NITRATUM POTASSÆ, E. CROCUS ANTIMONII, L. STIBIUM NITRO CALCINATUM, D. Oxide of antimony with sulphur. *Crocus of antimony*.

Prepared by injecting into a red hot crucible equal weights of sulphuret of antimony and nitrate of potash, powdered separately, and well mixed; separating the reddish matter that remains after the deflagration is over, from the whitish crust above it, and reducing the former to powder, which is to be well washed with hot water till it is tasteless. Scarcely employed in medicine, except as the basis of other preparations.

892  
Vitrified oxide of antimony with sulphur.

c. OXIDUM ANTIMONII CUM SULPHURE VITRIFICATUM, E. ANTIMONIUM VITRIFICATUM, L. Vitrified oxide of antimony with sulphur. *Vitrified antimony. Glass of antimony*.

Prepared by gradually heating powdered sulphuret of antimony till it ceases to emit sulphurous fumes, and then melting it by an intense heat into a glass, which is to be poured out on a heated brass plate.

Employed by the London college as the basis of their antimonial wine.

893  
Vitrified oxide of antimony with wax.

d. OXIDUM ANTIMONII VITRIFICATUM CUM CERA, E. Vitrified oxide of antimony with wax.

Made by adding to one part of melted yellow wax, eight parts of vitrified oxide of antimony with sulphur, and roasting the mixture over a gentle fire with continual agitation for about a quarter of an hour, then pouring out the mixture, and, when cold, grinding it to powder.

This is similar to a medicine that was much esteemed by Sir John Pringle, as a remedy in dysentery. Dose from two or three to 20 grains, according to the age and strength of the patient.

894  
Brown antimonial sulphur.

e. SULPHUR STIBIATUM FUSCUM, D. KERMES MINERALIS. Brown antimonial sulphur. *Kermes mineral*.

For the preparations and nature of this substance, see *CHEMISTRY*, N° 1688.

895  
Precipitated sulphuret of antimony.

f. SULPHURETUM ANTIMONII PRÆCIPITATUM, E. SULPHUR ANT. PRÆCIP. L. SULPHUR

STIBIATUM RUFUM, D. Precipitated sulphuret of antimony.

Prepared by dissolving two pounds of prepared sulphuret of antimony in four pounds of water of potash, mixed with three pounds of water, adding more, if necessary, in a covered iron pot, over a slow fire for three hours, frequently stirring with an iron spatula, straining the liquor while hot, and precipitating the sulphuret by diluted sulphuric acid; then washing and drying the precipitate. See *CHEMISTRY*, N° 1688.

Employed like the last as a diaphoretic. Dose two or three grains.

g. MURIAS ANTIMONII, E. ANTIMONIUM MURIATUM, L. STIBIUM MURIATUM, L. CAUSTICUM, D. Muriate of antimony. *Muriated antimony. Butter of antimony*. See *CHEMISTRY*, p. 638.

Employed sometimes as a caustic, and for preparing the following substance.

h. CALX STIBII PRÆCIPITATA, D. Precipitated calx of antimony. *Powder of algaroth*.

Prepared by adding eight ounces of muriated antimony to a filtered solution of eight ounces of mild vegetable alkali, in 40 pounds of water, washing and drying the precipitated powder.

i. OXIDUM ANTIMONII CUM PHOSPHATE CALCIS, E. PULVIS ANTIMONIALIS, L. PULVIS STIBIATUS, D. Oxide of antimony with phosphate of lime. *Antimonial powder*.

For the preparation and nature of this substance, see *CHEMISTRY*, N° 1686. It is considered as nearly the same with *James's powder*.

An excellent diaphoretic. Dose from five to ten grains.

k. TARTRAS ANTIMONII ET POTASSÆ. TARTRIS ANTIMONII, E. ANTIMONIUM TARTARISATUM, L. TARTARUM STIBIATUM, D. Tartrate of antimony and potash. *Tartarized antimony. Stibiated tartar. Emetic tartar or tartar emetic*. See *CHEMISTRY*, N° 1687, and Duncan's Dispensatory.

The Edinburgh and London colleges direct this to be prepared by boiling together three parts of oxide of antimony with sulphur, (see N° 891.) and four parts of super-tartrate of potash, for a quarter of an hour, in a glass vessel, straining the liquor, and setting it by to crystallize.

Emetic; dose two or three grains at once, or better half a grain or a grain at short intervals. Expecto- rant; dose half a grain, repeated at long intervals of two or three hours. Diaphoretic, in similar doses, combined with opium, &c. Alterative, in still smaller doses. Externally stimulant and rubefacient.

l. VINUM TARTRITIS ANTIMONII, E. VINUM ANTIMONII TARTARISATI, L. VINUM TARTARI STIBIATI, D. Wine of tartrate of antimony. *Wine of tartarized antimony*.

Prepared by dissolving tartrate of antimony and potash either immediately in Spanish white wine, or first in boiling water, and then adding the wine. The proportions



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portions of the colleges vary; those of Edinburgh being 24 grains of the salt to a pound of wine; of London and Dublin, 40 grains of salt to two ounces of boiling water, and eight ounces of wine; so that the former contains two grains in every ounce by weight, the latter four grains in every ounce by measure.

Doses of the Edinburgh wine as an emetic, an ounce, or an ounce and half, or at intervals half an ounce; as an expectorant or diaphoretic, a dram or two. The London and Dublin wine may be taken in about half the above doses.

901  
Antimonial  
wine.

*m.* VINUM ANTIMONII, L. Antimonial wine.

Prepared by digesting an ounce of vitrified antimony in powder, in a pint and half of Spanish white wine, for 12 days, with frequent agitation and straining through paper.

This preparation might be omitted, as it is neither so easily prepared nor so certain as the last.

902  
Calcined  
antimony.

*n.* ANTIMONIUM CALCINATUM, L. Calcined antimony. *Diaphoretic antimony.* See CHEMISTRY, N° 1690.

Formerly much employed as a diaphoretic in a dose of from five to 30 grains; but since the introduction of James's powder and the analogous preparations, nearly disused.

903  
Compound  
antimonial  
pills.

*o.* PILULÆ STIBII COMPOSITÆ, D. PILULÆ PLUMMERI. Compound antimonial pills. *Plummer's pills.*

Prepared by triturating together three ounces of precipitated sulphur of antimony, and the same of mild muriate of mercury; then adding a dram of extract of gentian, and the same of hard Spanish soap, and forming a mass with soap jelly.

Formerly in great repute as an alterative.

904  
Mercury.

277. HYDRARGYRUM, D. HYDRARGYRUS, E. L. ARGENTUM VIVUM. Mercury. *Quicksilver.*

For an account of the chemical nature and properties of mercury, and the modes of ascertaining its purity, see CHEMISTRY, p. 642.

We shall first notice the several officinal preparations of mercury, and then subjoin a sketch of its uses and the cases to which it is best adapted.

#### Officinal Preparations.

905  
Purified  
mercury.

*a.* HYDRARGYRUM PURIFICATUM, D. HYDRARGYRUS PURIFICATUS, E. L.

The Edinburgh process is to rub together four parts of quicksilver, and one part of iron filings, and distil from an iron vessel.

906  
Acetate of  
mercury.

*b.* ACETAS HYDRARGYRI. ACETIS HYDRARGYRI, E. HYDRARGYRUM ACETATUM, D. HYDRARGYRUS ACETATUS, L. Acetate of mercury. *Acetated mercury.* See CHEMISTRY, N° 1749.

Scarcely employed at present, except as an external stimulant or discutient.

907  
Muriate of  
mercury.

*c.* MURIAS HYDRARGYRI, E. HYDRARGYRUM MURIATUM CORROSIVUM, D. HY-

DRARGYRUS MURIATUS, L. Muriate of mercury. *Corrosive muriated mercury. Corrosive sublimate.* See CHEMISTRY, N° 1736.

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Prepared by boiling two pounds of purified quicksilver in two pounds and a half of sulphuric acid, in a glass vessel, over a sand bath, to dryness, triturating the dried mass when cold with four pounds of dried muriate of soda, then subliming in a glass cucurbit with a heat gradually increased, and separating the sublimed matter from the scoriæ.

Used as a fialagogue; dose one-eighth to one-fourth of a grain; as an external stimulus or escharotic to venereal ulcers, chancres, and herpetic eruptions, in the proportion of about a grain or more to the ounce of liquid.

*d.* SUBMURIAS HYDRARGYRI, E. HYDRARGYRUM MURIATUM MITE SUBLIMATUM, D. CALOMELAS, L. Submuriate of mercury. *Sublimed mild muriate of mercury. Calomel.* See CHEMISTRY, N° 1742, where the process is much the same as that of the Edinburgh college.

Given in most cases where mercury is indicated. Dose, as a diaphoretic or alterative, about a grain; as a cathartic or anthelmintic, three to 10 grains; as a fialagogue, one or two grains twice a day.

*e.* SUBMURIAS HYDRARGYRI PRÆCIPITATUS, E. HYDRARGYRUM MURIATUM MITE PRÆCIPITATUM, D. HYDRARGYRUS MURIATUS MITE, L. Precipitated submuriate of mercury. *Precipitated mild muriate of mercury.*

Procured by adding to a solution of half a pound of purified quicksilver in the same weight of diluted nitrous acid, a solution of four pounds and a half of muriate of soda in eight pounds of boiling water; washing and drying the precipitate.

Much the same in its effects and doses as the foregoing.

*f.* CALX HYDRARGYRI ALBA, L. White calx of mercury. *White precipitate.*

Prepared by dissolving first half a pound of sal ammoniac, and then half a pound of muriated mercury, in distilled water, adding to the mixed solution half a pound of water of prepared kali, filtering and washing and drying the precipitate. See Duncan's Dispensatory.

*g.* UNGUENTUM CALCIS HYDRARGYRI ALBÆ, L. Ointment of white calx of mercury.

Prepared by mixing a dram of the foregoing with an ounce and a half of ointment of hog's lard.

Used to destroy vermin, and in some cutaneous eruptions.

*h.* OXIDUM HYDRARGYRI CINEREUM, E. PULVIS HYDRARGYRI CINEREUS, D. Cinereous oxide of mercury.

Prepared by dissolving four parts of purified quicksilver in five parts of diluted nitrous acid; then gradually adding 15 parts of distilled water, and pouring in a sufficient quantity of water of carbonate of ammonia to precipitate the whole of the oxide, which is to be washed and dried.



History of Simple and Official Medicines. A mild fialagogue and alterative. Dose from one to five grains. Used also as a fumigation in syphilitic eruptions, &c.

r. PILLULÆ HYDRARGYRI, E. L. D. Mercury pills. History of Simple and Official Medicines.

<sup>913</sup> Ointment of cinereous oxide of mercury. *i.* UNGUENTUM OXIDI HYDRARGYRI CINEREI, E. Ointment of cinereous oxide of mercury.

<sup>921</sup> Mercurial pills.

Composed of one part of the foregoing, and three parts of hog's lard. Used for mercurial inunction.

<sup>914</sup> Quickfilver with chalk. *k.* HYDRARGYRUS CUM CRETA, L. Quickfilver with chalk.

Prepared by triturating together three parts of purified quickfilver and five parts of prepared chalk, till the globules disappear.

A mild alterative. Dose from 10 to 30 grains.

<sup>915</sup> Calcined mercury. *l.* HYDRARGYRUM CALCINATUM, D. HYDRARGYRUS CALCINATUS, L. Calcined mercury. See CHEMISTRY, N<sup>o</sup> 1709.

A violent fialagogue. Dose half a grain to a grain.

<sup>916</sup> Red oxide of mercury. *m.* OXIDUM HYDRARGYRI RUBRUM PER ACIDUM NITRICUM, E. HYDRARGYRUS NITRATUS RUBER, L. HYDRARGYRUM SUBNITRATUM, D. Red oxide of mercury by nitric acid. Red nitrated mercury. Red precipitate. See CHEMISTRY, N<sup>o</sup> 1709.

Used as a stimulant or an escharotic in fungous ulcers, &c.

<sup>917</sup> Ointment of red oxide of mercury. *n.* UNGUENTUM OXIDI HYDRARGYRI RUBRI, E. Ointment of red oxide of mercury.

Composed of one part of the foregoing reduced to fine powder, and eight parts of hog's lard.

<sup>918</sup> Yellow fulphate of mercury. *o.* SUBSULPHAS HYDRARGYRI FLAVUS, E. HYDRARGYRUM SUBVITRIOLATUM, D. HYDRARGYRUS VITRIOLATUS, L. Yellow subfulphate of mercury. Subvitriolated mercury. Turpeth mineral. See CHEMISTRY, N<sup>o</sup> 1720.

Employed chiefly as an erubine, mixed with liquorice powder or cephalic snuff.

<sup>919</sup> Black fulphuret of mercury. *p.* SULPHURETUM HYDRARGYRI NIGRUM, E. HYDRARGYRUM SULPHURATUM NIGRUM, D. HYDRARGYRUS CUM SULPHURE, L. Black fulphuret of mercury. Mercury with sulphur. Ethiops mineral.

Prepared by triturating together in a glass mortar with a glass pestle, equal weights of purified quickfilver, and sublimed sulphur, till the globules of the former disappear. See CHEMISTRY, N<sup>o</sup> 1712.

Employed chiefly as an alterative in cutaneous diseases and glandular affections. Dose from five or 10 grains to a dram or more.

<sup>920</sup> Red fulphuret of mercury. *q.* HYDRARGYRUM SULPHURATUM RUBRUM, D. HYDRARGYRUS SULPHURATUS RUBER, L. Red sulphuret of mercury. Facitious cinnabar. Vermilion. See CHEMISTRY, N<sup>o</sup> 1713.

Used principally as a fumigation for venereal ulcers in the nose, mouth, and throat, and as an ingredient in an ointment for the itch.

Prepared by triturating an ounce of purified quickfilver with the same weight of conserve of red roses in a glass mortar, till the globules completely disappear, adding occasionally a little mucilage of gum arabic, then adding two ounces of starch, and beating the whole with a little water into a mass, to be immediately divided into 480 equal pills (E.). The London pills are composed of two drams of purified quickfilver, three drams of conserve of roses, and one dram of powdered liquorice; and the Dublin pills of three drams of quickfilver, the same of extract of liquorice, and a dram and a half of purified liquorice root.

Four grains of the Edinburgh mass, three of the London, and two and a half of the Dublin, contain about one grain of mercury, so that the last are nearly twice as strong as the first. Dose of the Edinburgh pills as a fialagogue, from three to six, once or twice a day.

*s.* UNGUENTUM HYDRARGYRI, E. Mercurial ointment. <sup>922</sup> Mercurial ointment. Blue ointment.

Prepared by triturating together one part of quickfilver with a little hog's lard, till the globules disappear; then adding one part of mutton suet, and as much hog's lard as, with the first quantity, is equal to three parts. Also formed with double or treble the quantity of mercury.

Used for mercurial inunction. Quantity to be used at once about four scruples or drams every other night, or every night.

*t.* UNGUENTUM HYDRARGYRI FORTIUS, L. D. <sup>923</sup> Stronger mercurial ointment. Stronger mercurial ointment.

Composed of two pounds of purified quickfilver, 23 ounces of prepared hog's lard, and an ounce of prepared mutton suet.

Quantity used at once, about two scruples or a dram.

*u.* UNGUENTUM HYDRARGYRI MITIUS, L. D. <sup>924</sup> Milder mercurial ointment. Trooper's ointment.

Formed of one part of the foregoing, and two of prepared hog's lard. Used chiefly to destroy vermin, or for some cutaneous affections.

*v.* EMPLASTRUM HYDRARGYRI, E. <sup>925</sup> Mercurial plaster. Mercurial plaster.

Formed by melting one part of olive oil, and the same of white rosin together; and when the mixture is cold, rubbing with it three parts of quickfilver till the globules disappear, afterwards adding by degrees six parts of melted plaster of femivitrified oxide of lead, and mixing the whole carefully together.

*w.* EMPLASTRUM AMMONIACI CUM HYDRARGYRO, <sup>926</sup> Plaster of gum ammoniac with mercury. Plaster of gum ammoniac with mercury.

Prepared by triturating together three ounces of purified quickfilver, with about a dram of sulphurated oil, till the globules disappear, and then adding gradually one pound of strained gum ammoniac melted.



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x. EMPLASTRUM LITHARGYRI CUM HYDRARGYRO,  
L. Litharge plaster with mercury.

927  
Litharge  
plaster with  
mercury.

Composed of three ounces of purified quicksilver, about a dram of sulphurated oil, and a pound of melted litharge plaster.

These three last are employed as resolvents and discutients, in cases of venereal nodes and beginning indurations.

928  
Ointment  
of nitrate  
of mercury.

y. UNGUENTUM NITRATIS HYDRARGYRI, E. UNGUENTUM HYDRARGYRI NITRATI, L. D. UNGUENTUM CITRINUM. Ointment of nitrate of mercury. *Citrine ointment.*

Prepared by first dissolving one part of quicksilver in two of nitrous acid, and beating up the solution in a glass mortar, with nine parts of olive oil, and three of hog's lard, previously melted together (or with 12 parts of hog's lard, L. D.) till the whole is formed into an ointment.

A powerful stimulant and detergent ointment, useful in inflammation and ulceration of the eyelids, and in cutaneous affections.

929  
Milder ointment of nitrate of mercury.

z. UNGUENTUM NITRATIS HYDRARGYRI MITIUS, E. Milder ointment of nitrate of mercury.

Prepared in the same way as the last, except using three times the quantity of oil and lard.

Mercury, or some of its preparations, is exhibited, 1. As an emetic; the subfulphate of mercury; 2. As a sialagogue, mercury in almost any form; 3. As a cathartic, the submuriate of mercury; 4. As a diuretic, the oxides, the muriate, and the submuriate, combined with other diuretics; 5. As a sudorific, calomel conjoined with a sudorific regimen; 6. As an emmenagogue; 7. As an astringent, muriate of mercury; 8. As a stimulant, muriate of mercury; 9. As an antispasmodic; 10. As an anthelmintic.

With some of these views, mercury is frequently exhibited, 1. In febrile diseases; in obstinate agues. 2. In inflammatory diseases, in indolent and chronic inflammations, especially of the glandular viscera, as the liver, spleen, &c. 3. In exanthematous diseases, variola. 4. In profluvia; in dysentery. 5. In spasmodic diseases; tetanus, trismus, hydrophobia, &c. 6. In cachectic diseases; anasarca, ascites, hydrothorax, hydrocephalus, &c. 7. In impetigines, scrofula, syphilis, lepra, icterus, &c. 8. In local diseases; in caligo eorum, amaurosis, gonorrhœa, obstipatio, amenorrhœa suppressionis, tumours of various kinds, herpes, tinea, pfora, &c. \*

\* *Duncan's Dispensatory.*

For a more particular account of the medical effects and uses of mercury, we refer our readers to Cullen's *Materia Medica*, vol. ii. The *Practical Synopsis*, vol. i. The *Theaurus Medicaminum*, and Murray's *Elements*, vol. i.

930  
Zinc.

278. ZINCUM, E. L. D. Zinc. See CHEMISTRY, p. 649.

#### Official Preparations.

931  
Oxide of zinc.

a. OXIDUM ZINCI, E. ZINCUM CALCINATUM, L. CALX ZINCI, D. FLORES ZINCI. Oxide of zinc. *Flowers of zinc.* See CHEMISTRY, N<sup>o</sup> 1756.

Employed as a tonic and antispasmodic, chiefly in epilepsy. Dose from three to 10 grains, three or four times a day.

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b. UNGUENTUM OXIDI ZINCI, E. Ointment of oxide of zinc.

932  
Ointment  
of oxide of  
zinc.

Composed of one part of the foregoing, and six parts of simple liniment.

Applied to the eye as an astringent, in cases of ophthalmia, attended with debility and relaxation of the vessels.

c. SULPHAS ZINCI, E. ZINCUM VITRIOLATUM, L. D. Sulphate of zinc. *Vitriolated zinc.* *White vitriol.* See CHEMISTRY, N<sup>o</sup> 1764.

933  
Sulphate of  
zinc.

Employed internally as an emetic, in the dose of from 10 to 30 grains, and as an astringent and tonic in a dose of from two to five grains, several times a day. Externally as a stimulant and astringent, in the form of lotion, collyrium, or injection.

d. SOLUTIO SULPHATIS ZINCI, E. Solution of sulphate of zinc.

934  
Solution of  
sulphate of  
zinc.

Prepared by dissolving 16 grains of sulphate of zinc in eight ounces of water; then adding 16 drops of diluted sulphuric acid, and filtering through paper.

Used in most cases where the sulphate of zinc is employed externally.

e. AQUA ZINCI VITRIOLATI CUM CAMPHORA, L. Water of vitriolated zinc with camphor.

935  
Water of  
vitriolated  
zinc with  
camphor.

Composed of half an ounce of vitriolated zinc, half an ounce by measure of camphorated spirit, and two pints of boiling water, mixed together, and filtered through paper.

Used for an astringent lotion and collyrium.

f. SOLUTIO ACETITIS ZINCI, E. Solution of acetate of zinc.

936  
Solution of  
acetate of  
zinc.

Prepared by mixing together a solution of one dram of sulphate of zinc, in 10 ounces of distilled water, and a solution of four scruples of acetate of lead in 10 ounces of distilled water, allowing them to stand for some time at rest, and filtering.

An excellent astringent collyrium.

279. OXIDUM ZINCI IMPURUM, E. TUTIA, L. Impure oxide of zinc. *Tutty.* See MINERALOGY, *Index* of zinc.

937  
Impure oxide of zinc.

#### Official Preparations.

a. OXIDUM ZINCI IMPURUM PRÆPARATUM, E. TUTIA PRÆPARATA, L. D. Prepared impure oxide of zinc. *Prepared tutty.*

938  
Prepared  
impure  
oxide of zinc.

Prepared in the same way as chalk, and other hard substances.

b. UNGUENTUM OXIDI ZINCI IMPURI, E. UNGUENTUM TUTIÆ, L. D. Ointment of impure oxide of zinc. *Tutty ointment.*

939  
Ointment of  
impure  
oxide of zinc.

Composed of one part of the foregoing, and five parts of simple liniment (F.), or of any quantity of the foregoing, and as much ointment of spermaceti, or of hog's



History of hog's lard as is sufficient to form a soft ointment Simple and Official Medicines. (L. D.)  
Used in similar cases with N° 932.

945 Impure carbonate of zinc. 280. CARBONAS ZINCI IMPURUS, E. LAPIS CALAMINARIS, L. D. Impure carbonate of zinc. *Calamine.* See MINERALOGY Index.

*Official Preparations.*

941 Prepared impure carbonate of zinc. a. CARBONAS ZINCI IMPURUS PRÆPARATUS, E. LAPIS CALAMINARIS PRÆPARATUS, L. D. Prepared carbonate of zinc. *Prepared calamine.*

Prepared as chalk, &c.

942 Cerate of impure carbonate of zinc. b. CERATUM CARBONATIS ZINCI IMPURI, E. CERATUM LAPIDIS CALAMINARIS, L. D. CERATUM EPULOTICUM. Cerate of impure carbonate of zinc. *Calamine cerate. Epulotic cerate. Brown cerate. Turner's cerate.*

Composed of one part of the foregoing, and five parts of simple cerate (E.), or of half a pound (L.), or one part (D.) of the foregoing, the same of yellow wax, and a pint (L.) or two parts (D.) of olive oil.

Employed chiefly as a dressing to fores and ulcers.

943 Tin. 281. STANNUM, E. L. D. Tin. See CHEMISTRY, p. 653.

*Official Preparation.*

944 Powder of tin. a. STANNI PULVIS, L. D. Powder of tin.  
Prepared by granulating melted tin by agitation in a covered wooden box rubbed with chalk; or by stirring while melted over the fire till it be reduced to a powder.

Employed as a mechanical anthelmintic, especially in cases of tænia and lumbricus. Dose from two drams to half an ounce.

945 Lead. 282. PLUMBUM, E. L. D. Lead. See CHEMISTRY, p. 657.

946 White oxide of lead. OXIDUM PLUMBI ALBI, E. CERUSSA, L. D. White oxide of lead. *Ceruse. White lead.* See CHEMISTRY, N° 1856.

*Official Preparations.*

947 Compound powder of ceruse. a. PULVIS CERUSSÆ COMPOSITUS, L. Compound powder of ceruse.

Composed of five ounces of ceruse, half an ounce of farocol, and half an ounce of gum tragacanth, powdered together.

Intended as an external discutient, but inferior for that purpose to the solutions of the salts of lead.

948 Ointment of white oxide of lead. b. UNGUENTUM OXIDI PLUMBI ALBI, E. UNGUENTUM ALBUM. Ointment of white oxide of lead. *White ointment.*

Composed of five parts of simple ointment, and one of white oxide of lead.

A cooling desiccative ointment, forming a useful application in cases of excoriation.

949 Superacetate of lead. c. SUPERACETAS PLUMBI. ACETIS PLUMBI, E. CERUSSA ACETATA, L. D. SACCHARUM

SATURNI. Superacetate of lead. *Acetated ceruse. Sugar of lead.* See CHEMISTRY, N° 1858.

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Chiefly employed in solution as an external refrigerant or astringent, by way of lotion, collyrium, or injection. Its external use being highly dangerous, ought to be entirely abandoned.

d. UNGUENTUM ACETITIS PLUMBI, E. UNGUENTUM CERUSSÆ ACETATÆ, L. D. UNGUENTUM SATURNINUM. Ointment of acetate of lead. *Ointment of acetated ceruse. Saturnine ointment.*

Composed of one part of the foregoing, and 20 parts of simple ointment (E.), or two drams of the foregoing, two ounces of white wax, and half a pint or half a pound of olive oil (L. D.)

A useful refrigerant ointment.

950 283. OXIDUM PLUMBI RUBRUM, E. MINIUM, L. Red oxide of lead. *Red lead.* See CHEMISTRY, N° 1832.

This is now scarcely employed in medicine.

951 284. OXIDUM PLUMBI SEMIVITREUM, E. LITHARGYRUS, L. D. Semivitrified oxide of lead. *Litharge.* See CHEMISTRY, N° 1834.

*Official Preparations.*

a. LITHARGYRUS PRÆPARATUS, E. D. Prepared litharge.

Reduced to an impalpable powder by levigation, &c. in the usual manner.

b. AQUA LITHARGYRI ACETATI, L. LIQUOR LITHARGYRI ACETATI, D. EXTRACTUM SATURNI. Water of acetated litharge. *Extract of lead.*

Prepared by mixing two pounds four ounces of litharge with a gallon of distilled vinegar, boiling to fix pints with constant agitation, then setting it aside till the feces have subsided, and then straining.

c. LIQUOR LITHARGYRI ACETATI COMPOSITUS, D. AQUA LITHARGYRI ACETATI COMPOSITA, L. Compound water of acetated litharge.

Prepared by mixing a dram of the foregoing with a dram of proof spirit, and adding 14 ounces or a pint of distilled water.

This is intended as a refrigerant application, and is attended with effects similar to those of the superacetate of lead, from which it however differs in its chemical nature.

956 d. CERATUM LITHARGYRI ACETATI COMPOSITUM, L. CERATUM LITHARGYRI ACETATI, D. Compound cerate of acetated litharge.

Prepared by rubbing half a dram of camphor with a little olive oil, and in the mean time adding gradually two ounces and a half of acetated litharge to a melted mixture of four ounces of yellow wax, and nine ounces of olive oil, stirring it till cold; and lastly adding the camphorated oil. Formerly much employed as a refrigerant application, but differing in little, except in consistence,



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consistence, from the other combinations of lead with fatty matters.

957  
Plaster of  
femivitrified  
oxide of  
lead.

e. EMPLASTRUM OXIDI PLUMBI SEMIVITREI, E. EMPLASTRUM LITHARGYRI, L. D. EMPLASTRUM COMMUNE. Plaster of femivitrified oxide of lead. *Litharge plaster. Common plaster. Diaculum plaster.*

Prepared by boiling together over a slow fire, one part of femivitrified oxide of lead in powder, and about two parts of olive oil, adding a little hot water from time to time, and constantly agitating till the litharge and oil are uniformly mixed.

This plaster has been long employed to cover excoriated surfaces, and to form plasters for supporting the teguments in the neighbourhood of sores and ulcers.

For the ill effects of lead as a poison, see Fothergill's "Cautions concerning Poisons of Lead and Copper."

958  
Iron.

285. FERRUM, E. L. D. Iron. See CHEMISTRY, p. 664.

#### Official Preparations.

959  
Purified  
filings of  
iron.

a. FERRI LIMATURÆ PURIFICATÆ, E. Purified filings of iron.

Filings of iron are purified by placing a sieve over them, and attracting the purer particles through the sieve by means of a good magnet.

Sometimes employed internally as a tonic and anthelmintic, but their use is attended with an unpleasant extrication of hydrogenous gas.

960  
Purified  
black oxide  
of iron.

b. FERRI OXIDUM NIGRUM PURIFICATUM, E. FERRI SQUAMÆ PURIFICATÆ. Purified black oxide of iron. *Purified scales of iron.*

This is a preparation of the scales of iron that collect about a smith's anvil, by the magnet.

A better medicine than the former, as it is not attended with the extrication of hydrogen gas. Dose from five grains to a scruple.

961  
Carbonate  
of iron.

c. CARBONAS FERRI, E. FERRI RUBIGO, L. D. Carbonate of iron. *Rust of iron.* See CHEMISTRY, N° 1886, and 1929.

A good tonic, useful in general debility, and in uterine obstructions dependent on debility. Dose about a scruple, several times a day.

962  
Water of  
aerated  
iron.

d. AQUA FERRI AERATI, D. Water of aerated iron.

This is an artificial chalybeate water, prepared in the same manner as, N° 875. with the addition of a coil of fine iron wire suspended in the water.

An excellent tonic, forming a good substitute for the natural chalybeate waters. Dose a glass or two, twice or thrice a day.

963  
Wine of  
iron.

e. VINUM FERRI. L. VINUM FERRATUM, D. Wine of iron. *Chalybeate wine.*

Prepared by digesting four ounces of iron filings in four pints of Spanish white wine, for a month, with frequent agitation, and then straining the liquor.

A tonic formerly much used in chlorotic cases. Dose from a dram to half an ounce.

f. SULPHAS FERRI, E. FERRUM VITRIOLATUM, L. D. SAL MARTIS. Sulphate of iron. *Vitriolated iron. Salt of steel.* See CHEMISTRY, N° 1903.

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A good tonic, but apt to disagree with the stomach and bowels. Dose from half a grain to one grain several times a day.

964  
Sulphate  
of iron.

g. TINCTURA MURIATIS FERRI, E. TINCTURA FERRI MURIATI, L. D. Tincture of muriate of iron.

965  
Tincture of  
muriate of  
iron.

The Edinburgh tincture is prepared by digesting three ounces of purified black oxide of iron in powder, and ten ounces of muriatic acid, with a gentle heat; then adding, after the powder is dissolved, as much alcohol as will make the whole liquor amount to two pounds and a half. The preparations of the other colleges do not materially differ from this. Dose from 10 to 20 drops, twice or thrice a day.

h. FERRUM TARTARISATUM, L. *Tartarized iron.*

966  
Tartarized  
iron.

Prepared by mixing one pound of iron filings, and two pounds of powdered crystals of tartar, into a thick mass with distilled water, exposing them to the air for eight days in a wide glass vessel, and then drying the matter in a sand bath, and grinding to a very fine powder. See CHEMISTRY, p. 671. Dose from 10 to 30 grains.

286. SULPHAS FERRI NATIVUS. Native sulphate of iron. *Green vitriol. Green copperas.*

967  
Native sulphate of  
iron.

#### Official Preparations.

a. SULPHAS FERRI EXSICCATUS, E. Dried sulphate of iron.

968  
Dried sulphate of  
iron.

Prepared by exposing any quantity of sulphate of iron to the action of a moderate heat, in an unglazed earthen vessel, till it becomes white and perfectly dry.

b. OXIDUM FERRI RUBRUM, E. Red oxide of iron. *Colcothar of vitriol.*

969  
Red oxide  
of iron.

Prepared by exposing the foregoing preparation to an intense heat till it is converted into a very red matter.

c. EMPLASTRUM OXIDI FERRI RUBRI, E. EMPLASTRUM ROBORANS. Plaster of red oxide of iron. *Strengthening plaster.*

970  
Plaster of  
red oxide  
of iron.

Prepared by grinding eight parts of red oxide of iron with three of olive oil; and then adding them to a melted mixture of 24 parts of plaster of femivitrified oxide of lead, six parts of white rosin, and three of yellow wax.

Used as an external application, spread on linen or leather, in weaknesses of the back and loins.

d. MURIAS AMMONIÆ ET FERRI, E. FERRUM AMMONIACALE, L. Muriate of ammonia and iron.

971  
Muriate of  
ammonia  
and iron.

Prepared by mixing equal weights of red oxide of iron, washed and dried, and muriate of ammonia, and subliming, E. Dose from three to ten grains.

e. TINCTURA FERRI AMMONIACALIS, L. Tincture of ammoniacal iron.

972  
Tincture of  
ammoniacal  
iron.

Prepared



History of Simple and Official Medicines. Prepared by digesting four ounces of the preceding, with a pint of proof spirit, and straining.  
Used in similar cases with the tincture of muriate of iron, which is, however, to be preferred to it.

973  
Tincture of acetated iron. *f. TINCTURA FERRI ACETATI, D.* Tincture of acetated iron.

Prepared by rubbing together in a glass mortar, acetated vegetable alkali, and vitriolated iron, of each an ounce, till the mass deliquesces, and then adding during the trituration two pounds of alcohol, and straining the solution.

A powerful astringent and tonic. Dose 20 or 30 drops.

The preparations of iron, given in a moderate dose, gradually raise the pulse, improve the colour of the face, and increase the alvine, urinary, and cuticular excretions. Their taking proper effect is denoted by fetid eructations and black stools.

These tonics are indicated chiefly in cases of premenstrual discharges, or suppression of natural secretions or excretions, proceeding from a languor and sluggishness of the fluids, and general weakness of the solids. They are therefore useful in passive hæmorrhages, in dyspepsia, hysteria, and chlorosis; in most of the cachexie, and in cancerous affections, and in the general debility that often remains after acute diseases or excessive hæmorrhages.

The preparations of iron, when given too largely, or improperly, produce headach, anxiety, heat of skin, and not unfrequently hæmorrhages or vomiting, pains in the stomach, and spasms and pains in the bowels. They are improper wherever the circulation is already too quick, the solids too tense and rigid; and where there is any stricture and spasmodic contractions of the vessels.

974  
Copper. 287. *CUPRUM, E. L. D.* Copper. See CHEMISTRY, p. 674.

975  
Subacetat of copper. *SUBACETAS CUPRI. SUBACETIS CUPRI, E. ÆRUGO.* Subacetate of copper. *Verdigris.* See CHEMISTRY, N<sup>o</sup> 1995.

Employed chiefly as an escharotic, to destroy calous edges or fungous flesh, or as a stimulant to foul ulcers.

#### Official Preparations.

976  
Prepared verdigris. *a. ÆRUGO PRÆPARATA, L. D.* Prepared verdigris.

Prepared like other substances not soluble in water.

977  
Oxymel of verdigris. *b. OXYMEL ÆRUGINIS, L.* Oxymel of verdigris.

Prepared by dissolving one ounce of prepared verdigris in seven ounces of vinegar, straining through linen, and boiling with 14 ounces of clarified honey to a proper consistence.

Sometimes used as a detergent gargle to venereal ulcerations of the mouth and tonsils, but with much precaution. More generally employed, mixed with some stimulant ointment, as an external stimulant and escharotic.

*c. UNGUENTUM SUBACETITIS CUPRI, E.* Ointment of subacetite of copper.

Prepared by mixing 15 parts of resinous ointment, and one part of subacetite of copper.

*d. LIQUOR CUPRI AMMONIATI, D. AQUA CU-PRI AMMONIATI, L. AQUA SAPPHARINA.* Water of ammoniated copper. *Sapphire water.*

Prepared by the Dublin college, by mixing four grains of prepared verdigris, and two scruples of sal ammoniac, with eight ounces of fresh made lime water, digesting for 24 hours, and pouring off the clear liquor.

Used as a stimulant and detergent lotion.

288. *SULPHAS CUPRI, E. CUPRUM VITRIO-LATUM, D. VITRIOLUM CÆRULEUM.* Sulphate of copper. *Vitriolated copper. Blue or Roman vitriol. Blue stone.* See CHEMISTRY, N<sup>o</sup> 1972.

Sometimes given internally as an emetic, in the dose of from two to five grains, and as a tonic, a grain or two, several times a-day; but its internal use is dangerous. More frequently employed as an escharotic.

#### Official Preparations.

*a. SOLUTIO SULPHATIS CUPRI COMPOSITA, E. A-QUA STYPTICA.* Compound solution of sulphate of copper. *Styptic water.*

Prepared by boiling three ounces of sulphate of copper, and the same of sulphate of alumina, in two pounds of water, till they are dissolved; then adding one ounce and a half of diluted sulphuric acid to the liquor previously filtered.

Employed chiefly as a styptic for stopping superficial hæmorrhages, or bleedings at the nose.

*b. AMMONIARETUM CUPRI, E. CUPRUM AM-MONIATUM, D.* Ammoniated of copper. *Ammoniated copper.*

Prepared by the Edinburgh college, by rubbing two parts of the purest sulphate of copper with three parts of carbonate of ammonia carefully together, in a glass mortar, till the effervescence has entirely ceased, and they unite into a violet-coloured mass, which is to be wrapt up in blotting paper, and dried, first upon a chalk stone, and afterwards by a gentle heat, and put into a phial that is to be closely stopp'd.

Employed as a tonic and antispasmodic, chiefly in cases of epilepsy. Dose about half a grain or a grain, gradually increased to four or five grains, three or four times a-day.

*c. PILULÆ AMMONIARETI CUPRI, E.* Pills of ammoniated of copper.

Composed of 16 grains of ammoniated of copper in fine powder, and four scruples of crumb of bread, beaten into a mass with a sufficient quantity of water or carbonate of ammonia, and immediately divided into 32 equal pills.

One or two of these pills is a moderate dose.

For an account of the ill effects arising from copper

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978  
Ointment of subacetite of copper.

979  
Water of ammoniated copper.

980  
Sulphate of copper.

981  
Compound solution of sulphate of copper.

982  
Ammoniated of copper.

983  
Pills of ammoniated of copper.

984  
Pills of ammoniated of copper.

985  
Pills of ammoniated of copper.

986  
Pills of ammoniated of copper.

987  
Pills of ammoniated of copper.

988  
Pills of ammoniated of copper.

989  
Pills of ammoniated of copper.

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Pills of ammoniated of copper.

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Pills of ammoniated of copper.

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Pills of ammoniated of copper.

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Pills of ammoniated of copper.

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Pills of ammoniated of copper.

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Pills of ammoniated of copper.

996  
Pills of ammoniated of copper.

997  
Pills of ammoniated of copper.

998  
Pills of ammoniated of copper.

999  
Pills of ammoniated of copper.

1000  
Pills of ammoniated of copper.



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984  
Silver.

289. ARGENTUM, E. L. D. Silver. See CHEMISTRY, p. 681.

*Official Preparation.*

985  
Nitrate of  
silver.

A. NITRAS ARGENTI, E. ARGENTUM NITRATUM, L. D. CAUSTICUM LUNARE. Nitrate of silver. *Nitrated silver. Lunar caustic.*

Prepared by dissolving in a phial, with a gentle heat, four ounces of the purest silver flattened into plates, and cut into pieces, in eight ounces of diluted nitrous acid, mixed with four ounces of distilled water, and evaporating to a dry mass, which is to be put into a large crucible, and placed on a gentle fire, increased gradually till the mass flows like oil; then pouring it into iron pipes previously heated and anointed with tallow, and when cool, putting it into a glass vessel to be well stopped.

Employed chiefly as an escharotic, to destroy the callous edges of ulcers, warts, and other excrescences; but lately much recommended, and employed with some success, as a tonic in cases of epilepsy. It should be begun in very small doses, about one-eighth or one-fourth of a grain, dissolved in distilled water, or made into a pill with crumb of bread, gradually increasing the dose to a grain or more, twice or three times a-day.

CHAP. IV. *Gaseous Substances.*

986  
Oxygenous  
gas.

290. GAS OXYGENEUM. Oxygenous gas. *Vital air.*

On the nature and properties of this gas, see CHEMISTRY, N<sup>o</sup> 341.

When air, with an increased proportion of oxygen, is respired, it acts as a powerful stimulus, increasing the circulation and animal heat, raising the spirits, and producing a temporary increase of vigour and activity, followed, however, in a short time, by corresponding languor and weariness. From its stimulant effects, the respiration of superoxygenated air has been much recommended in various cases of debility, as chlorosis, epilepsy, asthmatic and dropical affections; but it seems now falling into disuse, from a conviction that practitioners were too sanguine in their expectations.

See *Alyon Essai sur les Proprietes Medicinales de l'Oxygene*, 8vo. Ward *Dissert. Inaug. de Medicina Pneumatica*, Edin. 1800. Hodges's *Dissert. Inaug. de Oxygenio*, Edin. 1801; and the Practical Synopsis.

987  
Gaseous oxide  
of azote.

291. GAS AZOTII OXIDUM. OXIDUM NITROSUM. Gaseous oxide of azote. *Nitrous oxide.* See CHEMISTRY, p. 493, 494, where the nature and effects of this gas are detailed at sufficient length.

As the respiration of this gas is not followed by the depression and debility consequent on the application of most other stimuli, it promises fair to become a useful remedy in some cases of debility and atony of the vital powers; but it is not yet much employed except by

way of philosophical experiment. See Davy's Researches on Nitrous Oxide.

292. GAS HYDROGENEUM. Hydrogen gas. *Inflammable air.* See CHEMISTRY, N<sup>o</sup> 373, *et seq.*

Hydrogen gas diluted with about ten times its quantity of atmospheric air, has been recommended in asthmatic complaints; but its success has not equalled the expectations of physicians.

293. GAS HYDROGENEUM CARBONATUM. Carbonated hydrogen gas. See CHEMISTRY, N<sup>o</sup> 412.

This gas, which is so deleterious when respired in its pure state, has been strongly recommended when diluted with about 20 parts of atmospheric air, as a remedy in phthisis, in some cases of which it has evidently been of service, relieving the symptoms, and at least arresting the progress of the disease. It should, however, be employed with great caution, and at first largely diluted.

294. GAS ACIDUM CARBONICUM. Carbonic acid gas. *Fixed air.* See CHEMISTRY, N<sup>o</sup> 595.

Besides the solution of this gas in water (see N<sup>o</sup> 875), used internally as a tonic and refrigerant, the gas itself, as evolved from fermenting substances, is a good stimulant or antiseptic application to foul ulcers and cancerous sores. The modification of this substance, which is contained in yeast or barm, has been much employed of late in typhus, but we believe with no material benefit.

295. CALORICUM. Caloric. *Heat.* See CHEMISTRY, Chap. iii.

It would be in vain for us here to attempt any account of the effects of heat on the human body, and these have been amply detailed, both by chemical and physiological writers. It acts as a powerful stimulus, and as such is often employed, especially in the form of warm and vapour baths, in various cases of debility and atony of the system. The effects and uses of the warm and vapour baths have been already mentioned under WATER, as have the effects and uses of the cold bath.

296. LUMEN. Light. See CHEMISTRY, Chap. ii.

Besides its effect on the eye, in producing vision, light evidently acts as a general and powerful stimulus, raising the spirits, and increasing the vigour and activity of the body. See Rush's lectures on animal life.

297. ELECTRICITAS. Electricity.

Common electricity acts as a powerful stimulus on the system, in proportion to the degree of concentration in which it is applied. When applied under the form of a stream, or continued discharge of electric fluid, its effects are the most gentle; but in general, when applied in the form of sparks, it is more active, but its effects are more confined; and when applied by way of a shock, it acts very powerfully, producing an agitation of the muscles of the part through which the shock is discharged; and if the shock is violent, the whole body partakes of the agitation. Electricity



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lectricity has been found of service, chiefly in cases of paralysis, and of uterine obstruction dependent on debility.

For the mode of applying electricity to the body, under its various states, we must refer to Cavallo's Medical Electricity, and Cuthbertson's Practical Electricity and Galvanism.

994 Galvanism.

298. GALVANISMUS. Galvanism.

This modification of electricity is found to have produced still greater effects on the human body, when applied under particular circumstances, into which we have not now room to enter. Much has of late been written on the efficacy of this powerful agent in the cure of various diseases, but like most other new remedies, its powers have been greatly overrated. It appears to have been most successful in cases of local paralysis, or nervous atony. In particular, it has in several instances relieved deafness, especially that species which seems to arise from torpor of the auditory nerve.

For the effects of galvanism on the body, and its application in medicine, see Wilkinson's Elements of Galvanism, vol. ii. p. 441.; Cuthbertson's Electricity and Galvanism; the Edinburgh Medical and Surgical Journal, &c.

ERRATA.—N<sup>o</sup> 620; for The London and Dublin tinctures, read The Edinburgh and Dublin tinctures; and for ten grains, read ten drams.

ADDENDUM.

The following was omitted among the preparations of iron.

g. CARBONAS FERRI PRÆCIPITATUS, E. Precipitated carbonate of iron.

Prepared by decomposing a solution of sulphate of iron by a solution of carbonate of soda; washing and drying the precipitate.

Similar in its virtues to 961. Dose five to 30 grains.

The space allotted to this article was so small, and the time for preparing it so short, that it is, of necessity, much less full and complete than it might otherwise have been. As it was impossible, under such circumstances, to produce any thing like an original and complete treatise, the compiler has endeavoured to render as useful as possible the selection that he found it necessary to make, and to supply the unavoidable deficiencies by a reference to the most respectable works on the subject.

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995 Precipitated carbonate of iron.

I N D E X.

<p><b>A.</b> <i>ACETATE</i> of potash, of mercury, <i>Acid</i>, acetous, impure, distilled, strong, camphorated, acetic, benzoic, succinic, sulphuric, aromatic, vitriolic, nitrous, nitric, muriatic, marine, arsenious, <i>Aconitum</i> neomontanum, <i>Aesculus</i> hippocastanum, <i>Affusion</i> of warm water, cold water, <i>Alcohol</i>, common, pure, ammoniated, aromatic, fetid, <i>Alkali</i>, volatile, mild, vegetable, fixed mineral, fixed, <i>Allium</i> fativum, cepa,</p>	<p>N<sup>o</sup> 311 906 305 306 307 309 307 570 829 835 837 835 847 848 853 ib. 888 628 504 817 819 294 295 237 243 246 238 312 840 473 475</p>	<p><i>Aloes</i>, <i>Althæa</i> officinalis, <i>Alum</i>, <i>Amber</i>, <i>Ammonia</i>, prepared, <i>Ammoniacum</i>, <i>Ammoniaret</i> of copper, <i>Amomum</i>, zingiber, cardamomum, repens, zedoaria, <i>Amygdalus</i> communis, <i>Amyris</i> elemifera, gileadensis, <i>Anethum</i> graveolens, ib. foeniculum, <i>Angelica</i> archangelica, <i>Angustura</i>, <i>Antacids</i>, <i>Anthelmintics</i>, <i>Anthemis</i> nobilis, pyrethrum, <i>Antimony</i>, vitrified, tartarized, calcined, diaphoretic, <i>Antispasmodics</i>, <i>Apium</i> petroselinum, <i>Apple</i>, bitter, <i>Apples</i>, esculent, list of,</p>	<p>N<sup>o</sup> 476 672 881 828 238 324 982 336 340 ib. 339 587 505 506 456 458 450 331 191 185 718 721 889 892 899 902 ib. 179 461 762 90</p>	<p><i>Aquafortis</i>, <i>Arbutus</i> uva ursi, <i>Aristolochia</i> serpentaria, <i>Arnica</i> montana, <i>Arsenic</i>, white, <i>Artemisia</i> abrotanum, maritima, fontonica, vulgaris, <i>Artichoke</i>, <i>Arum</i> maculatum, <i>Asarabacca</i>, <i>Asarum</i> europæum, <i>Assafœtida</i>, <i>Ass's</i> milk, character of, <i>Astragalus</i> tragacantha, <i>Astringents</i>, <i>Atropa</i> belladonna, <i>Avens</i>, <b>B.</b> <i>Balm</i>, of Gilead, <i>Balsam</i> of Peru, of Tolu, of Copaiva, of Canada, <i>Barberry</i>, <i>Barilla</i>, <i>Bark</i>, Peruvian or Jesuit's, <i>Barytes</i> <i>Bath</i>, hot,</p>	<p>N<sup>o</sup> 847 565 723 714 888 707 709 710 712 708 725 576 ib. 440 58 683 170 399 609 656 507 536 538 571 743 472 840 401 861 815 <i>Bath</i>,</p>
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