





13  
2.2

~~L. 143.~~

~~X. 206. c.~~



EB.9









**Anspach** rank he continued, with a very short interval, until his death; and the last service he performed was to convoy Queen Charlotte to England. He died in June 1762. No performance ever met with a more favourable reception, than the account of Anson's voyage round the world. Though it is printed under the name of his chaplain, it was composed under his lordship's own inspection, and from the materials he himself furnished, by the ingenious Mr Benjamin Robins.

**ANSPACH, THE MARQUISATE OF**, a small territory of Franconia, in Germany, bounded on the north by the bishoprics of Wartsburg and Bamberg, which last likewise lies to the west; by the earldoms of Holach and Oeting, with the bishopric of Aichstet, on the south; and the palatinate of Bavaria and the territory of Nuremberg on the east. The country is fruitful, and interspersed with woods, which render it agreeable for hunting. Besides the city Anspach, which is the capital, the chief towns are Kreglin, Swasbach, Kreilheim, Rot, and Wasser-Truding.

**ANSPACH** is a small but pretty town, very well built, and has several churches. It is walled round, but has no other fortifications. In the palace there is a remarkable cabinet of curiosities. It is seated on a river of the same name, and belongs to the house of Brandenburg. E. Long. 10. 42. N. Lat. 49. 14.

**ANSPESSADES**, in the French armies, a kind of inferior officers in the foot, below the corporals, but above the common sentinels. There are usually four or five of them in a company.

**ANSTRUTHER, EASTER and WESTER**, two royal boroughs of Scotland, situated on the south-east coast of the county of Fife, in W. Long. 2. 25. N. Lat. 56. 20.

**ANT**, in *Zoology*. See **FORMICA** and **TERMES**.

**ANT-Bear**, or **Ant-eater**, in *Zoology*. See **MYRMECOPHAGA**.

**Ant-Eggs**, a name popularly given to a kind of little white balls found in the banks or nests of ants, ordinarily supposed to be the ova of this insect.

Late naturalists have observed that these are not properly the ants eggs, but the young brood themselves in their first state; they are so many little vermiculi wrapped up in a film, or skin, composed of a sort of silk, which they spin out of themselves as silkworms and caterpillars do. At first they are hardly observed to stir: but, after a few days continuance, they exhibit a feeble motion of flexion and extension; and begin to look yellowish and hairy, shaped like small maggots, in which shape they grow up till they are almost as large as ants. When they pass their metamorphosis, and appear in their proper shape, they have a small black speck on them close to the anus of the enclosed ant, which M. Leeuwenhoeck probably enough imagines to be the fæces voided by it. Dr Edward King opened several of these vulgarly reputed eggs; in some of which he found only a maggot in the circumstances above described; while in another the maggot had begun to put on the shape of an ant about the head, having two little yellow specks, where the eyes were to be. In others, a further progress was observed, the included maggots being furnished with every thing to complete the shape of an ant, but wholly transparent, the eyes only excepted, which were as black as bugles.

VOL. II. Part II.

Lastly, In others, he took out very perfect and complete ants, which immediately crept about among the rest. These supposed ants eggs are brought up every morning in summer, near the top of the bank, where they are lodged all the warm part of the day, within reach of the sun's influence. At night, or if it be cool, or like to rain, they carry them down to a greater depth; so that you may dig a foot deep e'er you come at them. The true ants eggs are the white substance which, upon opening their banks, appears to the eye like the scatterings of fine white sugar, or salt, but very soft and tender. Examined by a microscope, it is found to consist of several pure white appearances, in distinct membranes all figured like the lesser sort of birds eggs, and as clear as a fish's bladder. The same substance is found in the bodies of the ants themselves. On this spawn, when emitted, they lie in multitudes, to brood, till in some time it is turned into little vermicules as small as mites, commonly called *ants eggs*.

**Ant-Hills**, are little hillocks of earth, which the ants throw up for their habitation and the breeding of their young. They are a very great mischief to dry pastures, not only by wasting so much land as they cover, but by hindering the scythe in mowing the grass, and yielding a poor hungry food pernicious to cattle. The manner of destroying them is to cut them into four parts from the top, and then dig into them so deep as to take out the core below, so that, when the turf is laid down again, it may lie somewhat lower than the level of the rest of the land: by this means it will be wetter than the rest of the land; and this will prevent the ants from returning to the same place, which otherwise they would certainly do. The earth that is taken out must be scattered to as great a distance every way as may be, otherwise they will collect it together and make another hill just by. The proper time for doing this is winter; and if the places be left open, the frost and rains of that time of the year will destroy the rest: but in this case care must be taken that they are covered up early enough in the spring, otherwise they will be less fertile in grass than the other places. In Hertfordshire they use a particular kind of spade for this purpose. It is very sharp, and formed at the top into the shape of a crescent, so that the whole edge makes up more than three-fourths of a circle; this cuts in every part, and does the business very quickly and effectually. Others use the same instruments that they do for mole-hills. Human dung is a better remedy than all these, as is proved by experiment; for it will kill great numbers of them, and drive all the rest away, if only a small quantity of it be put into their hills.

**Acid of Ants**, an acid produced by distilling millions of these insects, either without addition, or with water. It resembles vinegar in many respects; but differs from it in forming crystals with magnesia, iron, and zinc. Its attractions are not yet determined, but are supposed to coincide with those of vinegar.

**ANTA**, in the *Ancient Architecture*, a square pilaster, placed at the corners of buildings.

**ANTA**, or **Anie**, a small kingdom on the Gold coast of Africa, extending about ten leagues in length.—The country is covered with large trees, among which stand a number of fine villages. The soil is exceedingly rich, and the face of the country beautiful. The



Antacids,  
Antæus.

air is also much more salubrious than in other places of the Gold coast; it being observed by all writers, that the number of deaths here bears no proportion to that on any other part on the coasts of Guinea. This country contains the following villages, which deserve a particular description on account of the commerce they drive; viz. *Bourtray, Tokorari, Sukoada, and Sama*; for which, see those articles.—Formerly Anta was potent and populous, inhabited by a bold and rapacious people, who greatly annoyed the Europeans by their frequent incursions; but by continual wars with their neighbours they are now greatly enfeebled, and the country in a manner depopulated. The spirit of the few remaining inhabitants is fled: they are desponding, dispirited, and abject, seeking protection from the Dutch and other Europeans who have forts on this coast, and looking upon them as their best friends.

ANTACIDS, in *Pharmacy*, an appellation given to all medicines proper to correct acid or four humours.

Under the class of Antacids come, 1. Absorbents; as chalk, coral, sea shells, hæmatites, and steel filings. 2. Obstantents; as oils and fats. 3. Immutants; as lixivious salts and soaps.

ANTÆUS, in *Fabulous History*, a giant of Libya, son of Neptune and Terra. Desiring to build a temple to his father, of men's skulls, he slew all he met; but Hercules fighting him, and perceiving the assistance he received from his mother (for by a touch of the earth he refreshed himself when weary), lifted him up from the ground, and squeezed him to death.

Antæus was king of Mauritania; and from several circumstances, with which we are supplied by various authors, it appears extremely probable that he was the same person with Atlas: they were both of them the sons of Neptune, who reigned over Mauritania, Numidia, and a great part of Libya; as may be naturally inferred from his having such particular marks of distinction conferred upon him by the inhabitants of those regions. They both ruled with absolute power over a great part of Africa, particularly Tingitania. Hercules defeated and slew Antæus in the same war wherein he took the Libyan world from Atlas: both Atlas and Antæus invaded Egypt, and contended with Hercules in the wars with the gods, and were both vanquished by him. Antæus, as well as Atlas, was famed for his knowledge in the celestial sciences: from whence we may fairly conclude them to have been the same king of Mauritania.

Antæus, in his wars with Hercules, who commanded an army of Egyptians and Ethiopians, behaved with great bravery and resolution. Receiving large reinforcements of Libyan troops, he cut off vast numbers of Hercules's men: but that celebrated commander having at last intercepted a strong body of Mauritanian or Libyan forces sent to the relief of Antæus, gave him a total overthrow, wherein both he and the best part of his forces were put to the sword. This decisive action put Hercules in possession of Libya and Mauritania, and consequently of all the riches in those kingdoms; hence arose the fable, that Hercules finding Antæus, a giant of an enormous size, with whom he was engaged in single combat, to receive fresh strength as often as he touched his mother earth when thrown upon her, at last lifted him up in the air and

squeezed him to death. Hence likewise may be deduced the fable, intimating, that Hercules took Atlas's globe upon his own shoulders, overcame the dragon that guarded the orchards of the Hesperides, and made himself master of all the golden fruit. The golden apples, so frequently mentioned by the old mythologists, were the treasures that fell into Hercules's hands upon Antæus's defeat, the Greeks giving the Oriental word *ἄλλα* riches, the signification affixed to their own term, *ἄλλα*, apples. After the most diligent and impartial examination of all the different hypotheses of historians and chronologers, relating to Atlas and Antæus, we find none so little clogged with difficulties as that of Sir Isaac Newton. According to that illustrious author, Ammon, the father of Sefac, was the first king of Libya, or that vast tract extending from the borders of Egypt to the Atlantic ocean; the conquest of which country was effected by Sefac in his father's lifetime. Neptune afterwards excited the Libyans to a rebellion against Sefac; slew him, and then invaded Egypt under the command of Atlas or Antæus, the son of Neptune, Sefac's brother and admiral. Not long after, Hercules, the general of Thebais and Ethiopia for the gods or great men of Egypt, reduced a second time the whole continent of Libya, having overthrown and slain Antæus near a town in Thebais, from that event called Antæa or Antæopolis: this, we say, is the notion advanced by Sir Isaac Newton, who endeavours to prove, that the first reduction of Libya by Sefac happened a little above a thousand years before the birth of Christ, as the last by Hercules did some few years after.

ANTAGONIST, denotes an adversary, especially in speaking of combats and games.

ANTAGONIST *Muscles*, in *Anatomy*, those which have opposite functions; as flexors and extensors, abductors and adductors, &c.

ANTANACLASIS, in *Rhetoric*, a figure which repeats the same word, but in a different sense; as *dum vivimus vivamus*.

ANTAGOGE, in *Rhetoric*, a figure by which, when the accusation of the adversary is unanswerable, we load him with the same or other crimes.

ANTANDROS, in *Ancient Geography*, a town of Mysia, on the sea coast, at the foot of Mount Alexandria, a part of Mount Ida, (Strabo, Ptolemy): it was a town of the Leleges, (Strabo); anciently called *Edonis*, then *Cimmeris*, (Pliny, Stephanus.) It takes its name from Antandros, a general of the Æolians: it is now called *S. Dimitri*.

ANTAPHRODISIACS, in *Pharmacy*, medicines proper to diminish the semen, and consequently extinguish or lessen all desires of venery.

ANTARCTIC, in a general sense, denotes something opposite to the arctic or northern pole. Hence antarctic circle is one of the lesser circles of the spheres, and distant only 23° 30' from the south pole, which is likewise called antarctic for the same reason.

ANTARES, in *Astronomy*, the name of a star of the first magnitude, called also the scorpion's heart. Its longitude is 60° 13' 14" of Sagittarius; and its latitude 40° 31' 26" south.

ANTAVARE, a province of the island of Madagascar, lying about 21° 30' S. Lat. and bounded by the

Antagonist  
Antavare.



Ante  
||  
Antecur-  
fores.

the province and cape of Manoufi. The greatest part of it is watered by the river Mananzari, whose source is in the red mountains of Ambohithmene.

ANTE, in *Heraldry*, denotes that the pieces are let into one another in such a form as there is expressed; for instance, by dove tails, rounds, swallow tails, or the like.

ANTEAMBULONES, in *Roman Antiquity*, servants who went before persons of distinction to clear the way before them. They used this formula, *Date locum domino meo*, i. e. "Make room or way for my master."

ANTECEDENT, in general, something that goes before another, either in order of time or place.

ANTECEDENT, in *Grammar*, the words to which a relative refers.

ANTECEDENT, in *Logic*, is the first of the two propositions in an enthymeme.

ANTECEDENT, in *Mathematics*, is the first of two terms of a ratio, or that which is compared with the other.

ANTECEDENCE, in *Astronomy*, an apparent motion of a planet towards the west, or contrary to the order of the signs.

ANTECESSOR, one that goes before. It was an appellation given to those who excelled in any science. Justinian applied it particularly to professors of civil law; and, in the universities of France, the teachers of law take the title *antecessores* in all their theses.

ANTECURSORES, in the Roman armies, a party of horse detached before, partly to get intelligence, provisions, &c. and partly to choose a proper place to encamp in. These were otherwise called *antecessores*, and by the Greeks *prodromi*.

ANTEDATE, among *Lawyers*, a spurious or false date prior to the true date of a bond, bill, or the like.

Antedate  
||  
Antediluvians.

ANTEDILUVIAN, in a general sense, implies something that existed before the flood.

ANTEDILUVIAN *World*; the earth as it existed before the flood. See EARTH.

ANTEDILUVIANS, a general name for all mankind who lived before the flood, and so includes the whole of the human race from Adam to Noah and his family.

As Moses has not set down the particular time of any transaction before the flood, except only the years of the father's age wherein the several descendants of Adam in the line of Seth were begotten, and the length of their several lives; it has been the business of chronologers to endeavour to fix the years of the lives and deaths of those patriarchs, and the distance of time from the creation to the deluge. In this there could be little difficulty were there no varieties in the several copies we now have of Moses's writings; which are, the Hebrew, the Samaritan, and the Greek version of the Septuagint; but as these differ very considerably from one another, learned men are much divided in their opinions concerning the chronology of the first ages of the world; some preferring one copy, and some another.

That the reader may the better judge of the variations in the three copies in this period, they are exhibited in the following table, with the addition of those of Josephus as corrected by Dr Wells and Mr Whiston.

A TABLE of the Years of the Antediluvian Patriarchs.

Their ages at their sons birth.	Years they lived after their sons birth.				Length of their lives.					
	Heb.	Sam.	Sept.	Jof.	Heb.	Sam.	Sept.			
Adam, -	130	130	230	130	800	800	700	930	930	930
Seth, -	105	105	205	105	807	807	707	912	912	912
Enos, -	90	90	190	90	815	815	715	905	905	905
Cainan, -	70	70	170	70	840	840	740	910	910	910
Mahalael, -	65	65	165	65	830	830	730	895	895	895
Jared, -	162	62	162	62	800	785	800	962	847	962
Enoch, -	65	65	165	65	300	300	200	365	365	365
Methuselah, -	187	67	167	187	782	653	802	969	720	969
Lamech, -	182	53	188	182	595	600	565	777	653	753
Noah was aged, } at the Flood, }	600	600	600	600						
To the Flood,	1656	1307	2262	1556						

To this Table it will be necessary, in order to explain the consequences of these variations, to add separate chronological tables, showing in what year of his

contemporaries the birth and death of each patriarch happened, according to the computation of each of the said three copies.







## A Chronological TABLE of the Years of the Patriarchs, according to the Computation of the Samaritan Pentateuch.

	Years of the world.	Years of Seth.	Years of Enos.	Years of Cainan.	Years of Mahalaleel.	Years of Jared.	Years of Enoch.	Years of Methufelah.	Years of Lamech.	Years of Noah.
Adam created, -										
Seth born, -	130									
Enos born, -	235	105								
Cainan born, -	325	195	90							
Mahalaleel born, -	395	265	160	70						
Jared born, -	460	330	225	135	65					
Enoch born, -	522	392	287	197	127	62				
Methufelah born, -	587	457	352	262	192	127	65			
Lamech born, -	654	524	419	329	259	194	132	67		
Noah born, -	707	577	472	382	312	247	185	120	53	
Enoch translated, -	887	757	652	562	497	427	365	300	233	180
Adam dies, -	930	800	695	605	535	470		343	276	323
Seth dies, -	1042	912	807	717	647	582		462	388	335
Enos dies, -	1140		905	815	745	680		553	486	433
Japhet born, -	1207			882	812	747		620	553	500
Shem born, -	1209			884	814	749		622	555	502
Cainan dies, -	1235			910	840	775		648	581	528
Mahalaleel dies, -	1290				895	830		703	636	583
Jared, Methufelah, and Lamech, die, -	1307			The Flood,		847		720	653	600

To the varieties exhibited in the two last tables, others might be added, by admitting the various readings of some numbers in the Samaritan and Septuagint: for as to the Hebrew copies, there is here a constant agreement among them.

The manuscript from which the Samaritan Pentateuch was published, agrees exactly with the Samaritan numbers given by Eusebius. But St Jerome tells us, that in his time, there were some Samaritan copies which make Methufelah 187 years old at the birth of Lamech, and Lamech 182 at the birth of Noah, just as the Hebrew does. Now if these numbers be approved as the true original numbers, the interval from the creation to the flood will be 1556 years; differing from the Hebrew computation but 100 years in the age of Jared at the birth of Enoch; and if this last be allowed to be a mistake of the transcriber, by his dropping a number, and writing 62 instead of 162, as has been suspected, the Samaritan will be perfectly reconciled with the Hebrew, and all difference between them vanish.

Scaliger, on the authority of an old Samaritan chronicle, having at the end a table of the years of the patriarchs to the time of Moses, would correct two of the Samaritan numbers in Eusebius; viz. instead of 65, the age of Mahalaleel when he begat Jared; he thinks it should be 75; and instead of 67, the age of Methufelah, when he begat Lamech, he would have it 77. By which alterations he reckons 20 years more to the flood than Eusebius and the manuscript; that is, 1327. But, as he acknowledges the table, whereon he grounds these corrections, contains some great absurdities, it seems unreasonable to oppose it to the joint authority of Eusebius and the Samaritan manuscript.

As to the Septuagint, in the common editions of that version, the age of Methufelah at the birth of Lamech is 167; and consequently the sum of this period, according to them, is no more than 2242. But, in this case, Methufelah will outlive the flood 14 years; and we may well wonder, with Eusebius, where he was preserved. To obviate this objection, we are told, that, in some copies, Methufelah is said to have lived but 782 (not 802) years after the birth of Lamech, and no more than 949 in all. But the Alexandrian manuscript entirely takes away the difficulty, by giving the same number in this place with the Hebrew.

Pezron is of opinion, that the age of Lamech, at the birth of Noah, should be but 182, as it is both in the Hebrew and in Josephus, supposing, with St Austin, that the present number is the error of the scribe who first copied the original Septuagint manuscript in Ptolemy's library. So that he computes 2256 years to the flood. And, if this correction be admitted, and one more mentioned also by St Austin, viz. that Lamech lived 595 years after the birth of Noah, and not 565, as in the present copies, there will then remain no other difference between the Septuagint and the Hebrew than 600 years added to the ages of the six patriarchs when they begat their sons, and Methufelah will, conformably to the Hebrew and Samaritan, die in the year of the flood.

Having premised this chronological view, we shall proceed to the history of the antediluvian patriarchs.

Of the great progenitor we are told, that "the Lord Of Adam in God took the man and put him into the garden." <sup>2</sup>Paradise. These words plainly indicate, that Adam was not created within the precincts of Paradise; and it is afterwards said, upon his being turned out of the garden, "He was



Antediluvians.

was sent to till the ground whence he was taken."—As to the situation of this garden, concerning which there has been so much learned but uncertain inquiry, see the article PARADISE.

Adam was doubtless created in the prime of his life, with all his powers and faculties in the highest degree of strength and vigour. His body would be graceful, and well proportioned; while his countenance was comely, and glowed with all the lustre of youthful innocence. The poet thus describes our first parents:

Adam the goodliest man, of men since born  
His sons; the fairest of her daughters Eve.  
—— for in their looks divine

The image of their glorious Maker shone. MILTON.

Many have entertained an opinion (as mentioned under the article ADAM), that our first parent was created an adept in knowledge and in science, a consummate philosopher, and an accomplished divine. But the very reverse of this must be true, providing we give credit to the account which Moses gives of him. If Adam was created with intuitive knowledge, for what end was he endowed with the senses of a man, through which ideas might be conveyed to his mind, and make him capable of such improvements as arise from experience and observation? And if he originally possessed such a fund of valuable knowledge, why had he such an ardent thirst for an unwarrantable portion of more, and for the sake of this additional pittance forfeited his happiness and life? Besides, if Adam was at first all light and knowledge, and was soon after reduced to a state of ignorance and error, this transition would make a retrograde in the system of nature, quite dissimilar to that uniformity which obtains throughout the whole of the divine government and economy. Moses introduces our first parents into life in the most natural manner, as having capacities to acquire knowledge, senses to receive impressions from objects around them, and a sufficient degree of reason to form a judgment of the things perceived; yet all these faculties can only be considered as so many instruments, by the exercise of which they might be enabled to discharge the duties of their future life.

Smellie's  
Translation,  
vol. iii. p.  
50, &c.  
(the passage  
here a-  
bridged).

The following portrait of our first progenitor when he first came into life, drawn by the inimitable pencil of Buffon, is extremely beautiful, while it is dissimilar from no part of the Mosaic history. "Let us suppose a man in the same situation with him who first received existence; a man whose organs were perfectly formed, but who was equally new to himself, and to every object which surrounded him. Were he to give a history of his thoughts, and of the manner in which he received impressions, he might give some such information as this. I remember the moment when my existence commenced. It was a moment replete with joy, with amazement and anxiety. I neither knew what I was, where I was, nor whence I came. I opened my eyes. But what an amazing increase of sensation! The light, the celestial vault, the verdure of the earth, the transparency of the waters, gave animation to my spirits, and conveyed pleasures which exceed the powers of expression. At first I believed that all these objects existed within me, and formed a part of myself. When, turning mine eyes to the sun, his splendour overpowered me. I voluntarily shut out the

light, and felt a small degree of pain. During this moment of darkness, I imagined that I had lost the greatest part of my being. I was then roused with a variety of sounds. The singing of birds and the murmuring breezes formed a concert, which excited most sweet and enchanting emotions. I listened, and was convinced that these harmonious sounds existed within me.—I made a step forwards; and afterwards renewing my motion, I walked with my face turned towards the heavens; till I struck against a palm tree, and felt some degree of pain. Seized with terror, I ventured to lay my hand upon the object, and perceived it to be a being distinct from myself, because it did not, like touching my own body, give me a double sensation. I resolved then to feel every object I saw, and had a strong desire to touch the sun; but stretching out my hands to embrace the heavens, they met without any intermediate object. All objects appeared to me equally near; and it was not till after many trials that I learned to use my eye as a guide to my hand. At last the train of my ideas was interrupted, and I lost the consciousness of my existence. My sleep was profound; but having no mode of measuring time, I knew nothing of its duration. When I awakened, I was astonished to find by my side another form, perfectly similar to my own. I conceived it to be another self; and instead of losing by my sleep, I imagined myself to be double. I ventured to lay my hand upon this new being. With rapture and astonishment I perceived that it was not myself, but something much more glorious and desirable."

This philosophical detail coincides with the opinion, that, excepting what portions of knowledge Adam might acquire by the exercise of his senses, his Maker taught him every thing that was necessary for his comfort and subsistence. But before the Almighty gave any instructions to our first parents, we must suppose he inspired them with the knowledge of the meaning of every word which they heard him speak; otherwise it would have been impossible that he could have had any such communication with them. The words which they heard and were made to understand, being imprinted upon their memories, would serve as the foundation of a language, which they would afterwards increase and enlarge as new objects began to multiply, and hence give rise to new terms and definitions.

One of the first lessons taught to Adam by his infallible Director, would be the necessity of food for the support of his life. Accordingly Moses informs us, that for this purpose a grant was made him to eat of every tree of the garden, excepting one. At the same time it was made known to him, in what manner he was to repair the decays of nature, namely, by eating of *the tree of life*. Then, in order to qualify him for social intercourse, he was ordered to exercise his faculty of speech, by giving names to different creatures. The author of the book of Ecclesiasticus says of our first parents, "They received the use of the five operations of the Lord; and in the sixth, he imparted to them understanding; and in the seventh, speech to interpret the cogitations thereof." The meaning cannot be, that he gave them every word they were to pronounce, more than every idea which their senses were to convey to their understanding. Our talents, and

Antediluvians.



Antediluvians.

and the exercise of them, may be both said to be given us of God; but whatever capacities we receive from him, it is supposed that we ourselves must improve them, before we can attain to any acquirements whatever. Although Adam had heard and understood the words of God, yet Moses does not give the least hint that he ever attempted to speak before this time. For if he had, as some imagine, innate knowledge and proper terms for every thing presented to him, what occasion was there to bring animals before him to see what names he would impose upon them? Some writers have endeavoured to turn into ridicule the whole of this transaction, and have asked, how could all creatures upon earth appear at one time before Adam? not only one, but many days would have elapsed before he could give each a name. But this objection arises from not understanding the words of Moses. What our translators render, to see what he would call THEM, is in the original, to see what name he would call IT. "And whatsoever Adam called IT (viz. the living creature), that was the name of IT." The meaning seems to be no more than this: God brought a few creatures to Adam, to make him try to name them; and whatever he called any of them, that continued to be its name. And no doubt he would denominate every animal before him, from its external appearance, from its size, its colour, or its voice: And in process of time, he would give names to all those creatures which Providence brought within his view, or with which he became afterwards acquainted.

The next thing in which God instructed Adam, though probably in a trance or vision, was his near relation to Eve, as being part of his own body. This piece of knowledge was imparted to him, in order to cement the greater love and affection between the two during the remaining period of their lives.

These, according to Moses, are all the transactions in which our first parents were interested during their abode in Paradise, till they lost their innocence, and forfeited the enjoyments of their happy situation. And nothing can be more evident, than that the instructions which they received, bespoke the infantile state of their minds; though there is no doubt but further and higher dispensations of knowledge would have been communicated to them, as they became able to bear them, and had their minds matured by experience and reflection.

<sup>3</sup> How long our first parents retained their innocence, we are nowhere told. Many assert that they fell on the very first day of their creation. But Moses mentions so many transactions on that day, as must have engrossed the whole of their attention, and prevented them from falling into such temptations as arise from indolence and want of reflection. Besides, if, in such circumstances as they were placed, they could not refrain from an open violation of the Divine law for the space of one day, it would bespeak a deceitfulness of heart in them greater than in most of their posterity. It is somewhat singular, that many of the great trials recorded in sacred writing were limited to 40 days; which in prophetic style is sometimes equivalent to 40 years. This appears from the history of Moses, of Eli-

Antediluvians.

jah, of Nineveh, and of the Jewish nation after the death of Christ. And, what is very remarkable, he, of whom Adam was a type, was tempted 40 days in the wilderness. Agreeable to this part of the Divine economy, perhaps the trial of our first parents lasted so long. However, that they remained for a considerable time in the garden, appears highly probable from this consideration, that their indulgent Creator, who had manifested his tender concern for them while innocent, and extended his mercy to them when fallen, would never have turned them out of paradise, and sent them into an uncultivated world, before they had acquired the arts of living, and were capable of providing against the vicissitudes of their future lot. The particulars of this memorable transaction are considered under the article FALL.

Moses gives us no further account of Adam's life after leaving the garden, but that he begat some children, and died at such an age. Yet we have no reason to doubt, but the venerable patriarch ever after led a life of penitence, and of the strictest piety. The various communications which he had enjoyed with his Maker in paradise, and which were probably renewed to him after his fall, could not fail to make the deepest impressions upon his mind. The gracious respite he had met with, from the execution of the sentence denounced against him, would make him cautious of offending for the time to come; lest the next violation of the Divine authority should put an end to his existence. The *cherubim and flaming sword*, or the devouring flame, on the *east of Eden* (which might continue burning all his life), would be to him what the vestiges of the ark were to Noah and his sons, an awful memorial of the danger of incurring the Divine displeasure. Besides, his worldly comforts being in a great measure withdrawn, his mind would be naturally disposed for relishing those pleasures which flow from piety and religion.

The first thing which we hear of Adam in his new situation was, that *he knew Eve his wife, and she conceived and bare Cain*. Afterwards, we are told, she <sup>4</sup> bare Abel. When the brothers were grown up, they <sup>of their</sup> progeny betook themselves to distinct employments; the former to husbandry, and the latter to the keeping of sheep. Their inward dispositions were still more different; Cain being wicked and avaricious, but Abel just and virtuous.

In process of time they brought their respective offerings to God; Cain of the fruit of the ground, and Abel of the firstlings of his flock: but they met with very different success; for God accepted the offering of Abel, but Cain's he did not accept; the consequences of which are related under the articles ABEL and CAIN.

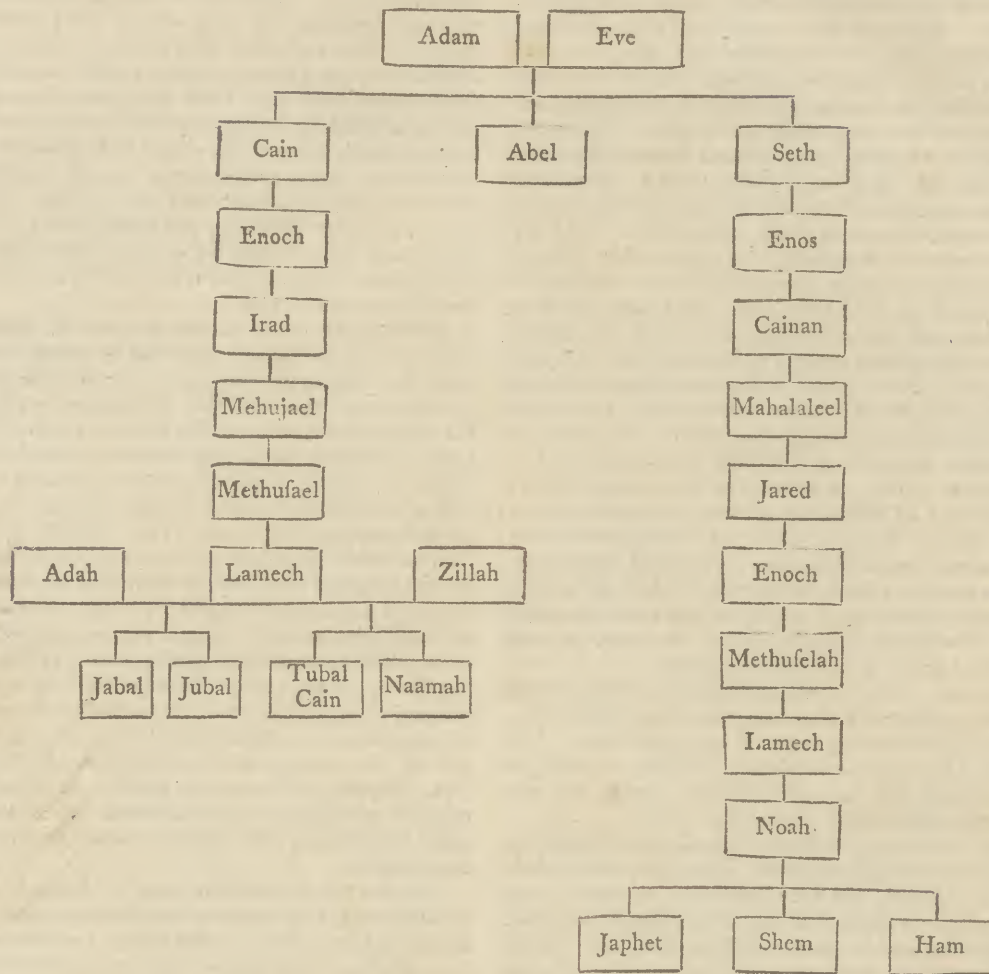
Soon after the murder of Abel, his loss was made up to his parents in another son they had, whom Eve named *Seth*, that is, "appointed;" because he was appointed instead of Abel whom Cain slew.

As the whole progeny of Adam, of whom we have any mention in Scripture, were the descendants of Cain and Seth, it may be proper to give the following

Genealogical



Genealogical TABLE of the Antediluvians.



<sup>5</sup> Of the line of Cain. The sacred historian, confining himself chiefly to the line of Seth, from whence Noah was descended, has acquainted us with very few particulars relating to that of Cain: nor can we thus form any conjectures how long he or any of his descendants lived. All we know is, that Lamech, the fifth in descent from him, married two wives, Adah and Zillah, the first known instance of polygamy: that by the former he had two sons, Jabal, who was the first that dwelt in tents, and fed cattle; and Jubal, the inventor of music; and by the other, a son named Tubal-Cain, who found out the art of forging and working metals. Zillah likewise brought him a daughter named Naamah, supposed to have invented spinning and weaving: and we are told that, on some occasion or other, Lamech made a speech to his wives, the explication of which has greatly puzzled the interpreters. See LAMECH.

<sup>6</sup> The line of Seth. Moses proceeds to tell us, that Seth had a son born to him called Enos, and that *then began men to call upon the name of the Lord*. Commentators give us three different senses of these words. Some think the words

should be rendered, *Then men profaned in calling on the name of the Lord*; and that even Enos arrogated to himself a power, as if he had been a god. But this sense seems harsh and unnatural. There is nothing more unlikely, than that Adam's grandchildren, who lived under his own eye, would so soon shake off parental authority, and apostatize from the belief and worship of the one true God. Others think, that though men had hitherto worshipped God in private, yet they now instituted public assemblies, met in larger societies for solemn and social worship, and introduced liturgies and forms for more effectually paying their homage to the Almighty. This indeed is a very natural comment from those who place religion in modes and set forms of worship. But it is scarcely credible, that Adam and his family had never met together to worship God till now, when we are told that Cain and Abel, and probably both their families along with them, brought their offerings to the Lord; this they no doubt did every Sabbath day. Others, therefore, put a more consistent interpretation upon the words, namely,



Antediluvians. namely, that men now called themselves by the name of the Lord. The meaning of which is, that about this period, the family of Seth, who adhered to God and his worship, began to give themselves a denomination, expressive of their relation and regards to him. They distinguished themselves from the irreligious family of Cain, and assumed the title of the sons or children of God: which designation was afterwards applied to them by Moses: it was even used after the flood, and adopted by the writers of the New Testament.

Of the three next descendants of Seth, Cainan, Mahalaleel, and Jared, and of Methuselah and Lamech, the grandfather and father of Noah, Moses has recorded no more than their several ages. The oriental authors commend them, as they do Seth and Enos, for their piety, and the salutary injunctions they left behind them, forbidding their children all intercourse with the race of cursed Cain.

Enoch the son of Jared, and father of Methuselah, was a person of most extraordinary piety, walking with God, as the Scripture expresses it, for at least the last three hundred years of his life; as a reward for which exemplary behaviour in so corrupt an age, he was taken up by God into heaven, without tasting death. See ENOCH.

7  
Corruption  
of the hu-  
man race.

Moses afterwards informs us, *When men began to multiply*, i. e. when the earth was filled with inhabitants, and tribes formerly living remote began to approach nearer to one another, *Daughters were born unto them*; meaning in greater abundance than formerly; which seems to hint, that at this period there were considerably more females than males born into the world. Some think that Moses, being now about to mention the wickedness of the Antediluvians, introduces the posterity of Cain as being the chief cause of their corruption; and that he styles them *men* and *daughters of men*, because they were sensual and earthly; in which sense the word *men* is sometimes used in the Scriptures.

*The sons of God saw the daughters of men that they were fair; and they took them wives of all that they chose.* These words have given rise to many absurd and ridiculous comments both of Jews and Christians. There are two meanings affixed to them, which may be mentioned as the most probable. Whenever the name of God is added to any thing, it not only denotes God's being the efficient cause, but it heightens and increases its usual meaning. For which reason any thing that is excellent in its kind, or uncommonly lofty and magnificent, was by the Jews said to be of God, or of the Lord. Thus the angels are called the *sons of God*. And Adam being created with a nobler image than any other creature, is said to be made in the *image of God*. The cedars of Lebanon are called the *cedars of the Lord*; and great mountains, the *mountains of God*. Therefore by the *sons of God* in this place are meant men of great opulence, power, and authority. And by way of contrast, the historian introduces those of poor and mean circumstances in life, and calls them the *daughters of men*. The words thus explained, are not an unlikely description of that dissolute age. The great and mighty in this world are commonly most addicted to sensual gratifications, because they have so many incentives to inflame their passions, and so few restraints to curb them; and, in-

VOL. II. Part II.

stead of using their power to punish and discountenance vice, are too often the greatest examples and promoters of lasciviousness and debauchery. Thus, these *sons of God*, these great men, when they happened to meet with the daughters of their inferiors, gazed upon them as fit objects to gratify their lust; and from among these they took to themselves, in a forcible manner, *wives*, or (as it may be rendered) *concubines*, of all that they chose, whether married or unmarried, without ever asking their consent. No wonder, then, that the earth should be filled with violence, when the highest rank of men were above the restraint of law, of reason, and religion, and not only oppressed the poor, but with impunity treated them and their children in such a base and cruel manner.

Antediluvians.

But there are other writers who cannot relish the above opinion; because they think it a harsh and unnatural construction, to call great and powerful persons the *sons of God*, and all mean and plebeian women the *daughters of men*. Besides, the text does not say, that the *sons of God* offered any violence to these inferior women; but that they saw that they were fair, and made choice of them for wives. And wherein is the heinousness of the offence, if men of a superior rank marry their inferiors, especially when an excess of beauty apologizes for their choice? Or why should a few unequal matches be reckoned among the causes of bringing upon the world an universal destruction? For these reasons many are of opinion, that the descendants of Seth, who were styled the *sons of God* on account of their near relation to him, saw the *daughters of men*, i. e. the impious progeny of Cain, and by intermarriages became associated with them; and surrendering to those enchantresses their hearts and their freedom, they surrendered at the same time their virtue and their religion. From this union proceeded effects similar to what has happened ever since. When a pure society mixes with a profane, the better principles of the one become soon tainted by the evil practices of the other; which verifies the old adage, *Evil communication corrupts good manners*. Thus it appears, that the great source of universal degeneracy was owing to the posterity of Seth mingling with the progeny of Cain, in opposition to what their pious fathers had strictly charged them.

It is afterwards said, *There were giants in the earth in those days: and also after that, when the sons of God came in unto the daughters of men, and they bare children to them, the same became mighty men, which were of old men of renown.* Translators are not agreed about the meaning of the word *giants*. Some render the word, *violent and cruel men*; others, men who fall upon and rush forward, as a robber does upon his prey: the meaning then is, that they were not more remarkable for their strength and stature, than for their violence and cruelty. In Luther's German translation of the Bible, this word is rendered *tyrants*. It is generally agreed, that in the first ages of the world, men were of a gigantic stature; though Moses does not mention them as giants till after the union of the families of Seth and Cain, when men used their superiority in bodily strength for the purposes of gratifying their unhallowed passions.

At this period of the world, and long after, political power and bodily strength went hand and hand to-



Antediluvians.

gether. Whoever was able to encounter and kill a fierce and dangerous wild beast, and clear the country of noxious animals, or who was able in the day of battle to destroy most of his enemies, was looked up to by the rest of his companions as the fittest to be their leader and commander. Thus Nimrod, from being a *mighty hunter*, became a great king, and, grasping at power, was never satisfied till every obstacle to his ambition was removed. And it appears from history, that all his successors have pretty nearly trodden in the same path. These *giants* then, or *sons of God*, might be the chief warriors, who formed themselves into chosen bands, and living among a cowardly and effeminate people, had no curb to their cruelty and lust. From them might spring an illegitimate race, resembling their fathers in body and mind, who, when they grew up, having no inheritance, would be turned loose upon the world, and follow no other employment but theft, rapine, and plunder. Thus they became *mighty men* and *men of renown*, and procured themselves a name: but this was owing to the mischief they did, and the feats of savage cruelty which they performed.

8  
God's forbearance.

Mankind running thus headlong into all manner of vice, were admonished to repent; and God, out of his great mercy, was pleased to grant them a convenient time for that purpose; no less than 120 years, during which space, but no longer, he declared his Spirit should "strive with man," or endeavour to awaken and reclaim them from their wicked course of life.

9  
Preaching of Noah.

Amidst this general corruption, one man, however, was found to be just and perfect in his generation, walking with God. This extraordinary person was Noah, the son of Lamech; who, not thinking it sufficient to be righteous himself, unless he did his utmost to turn others likewise to righteousness by admonition as well as example, became a preacher to the abandoned race among which he lived, employing both his counsel and authority to bring them to a reformation of their manners, and to restore the true religion among them. But all he could do was to no purpose; for they continued incorrigibly obstinate; so that at length (as Josephus tells us), finding himself and family in imminent danger of some violence in return for his good will, he departed from among them, with his wife and children.

10  
Mankind incorrigible.

On his departure, it is probable they fell into greater disorders than before; having now none to controul, or even to trouble them with unwelcome advice. Moses assures us, "that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was continually evil;" and that "the earth was corrupt and filled with violence, all flesh having corrupted his way upon the earth." These words leave no room to inquire into the particular crimes of the Antediluvian world, which seems to have been overrun with a complication of all manner of debauchery and wickedness, and above all with violence and injustice towards one another.

11  
The whole world destroyed by a flood except Noah and his family.

Things being in this state, God, as the sacred historian pathetically expresses it, "repented that he had made man on earth, and it grieved him at his heart." And the time of forbearance being elapsed, he passed the sentence of their utter destruction by a flood of waters; a sentence which likewise included the beasts

of the earth, and every creeping thing, and the fowls of the air. But "Noah found grace in the eyes of the Lord;" who had before acquainted him with his design of bringing a deluge on the earth, and directed him to make an ark, or vessel, of a certain form and size, capable of containing not only himself and family, but such numbers of animals of all sorts as would be sufficient to preserve the several species, and again replenish the earth, together with all necessary provisions for them. All these injunctions Noah performed; and, by God's peculiar favour and providence, he and those that were with him survived this tremendous calamity. See the article DELUGE.

Antediluvians.

As to any further transactions before the flood, we are left entirely in the dark by the sacred historian. The Jews and eastern nations, however, have made ample mends for the silence of Moses, by the abundance of their traditions. The only part of these, which can be connected in any thing like history, is what follows.—After the death of Adam, Seth, with his family, separated themselves from the profligate race of Cain, and chose for their habitation the mountain where Adam was buried, the Cainites remaining below, in the plain where Abel was killed; and, according to our historians, this mountain was so high, that the inhabitants could hear the angels singing the praises of God, and even join them in that service. Here they lived in great purity and sanctity of manners. Their constant employment was praising God, from which they had few or no avocations; for their only food was the fruit of the trees which grew on the mountain, so that they had no occasion to undergo any servile labours, nor the trouble of sowing and gathering in their harvest. They were utter strangers to envy, injustice, or deceit. Their only oath was, "By the blood of Abel;" and they every day went up to the top of the mountain to worship God, and to visit the body of Adam, as a mean of procuring the Divine blessing. Here, by contemplation of the heavenly bodies, they laid the foundations of the science of astronomy; and lest their inventions should be forgotten, or lost before they were publicly known, understanding, from a prediction of Adam's, that there would be a general destruction of all things, once by fire, and once by water, they built two pillars, one of brick, and the other of stone, that if the brick one happened to be overthrown by the flood or otherwise destroyed, that of stone might remain. This last, Josephus says, was to be seen in his time in the land of Syriad, (thought to be in Upper Egypt).

12  
Traditional history of the Antediluvians.

The descendants of Seth continued in the practice of virtue till the 40th year of Jared, when an hundred of them hearing the noise of the music and the riotous mirth of the Cainites, agreed to go down to them from the holy mountain. On their arrival in the plain, they were immediately captivated by the beauty of the women, who were naked, and with whom they defiled themselves; and this is what is meant by the intermarriage of the sons of God with the daughters of men, mentioned by Moses. The example of these apostate sons of Seth was soon followed by others; and from time to time great numbers continued to descend from the mountain, who in like manner took wives from the abandoned race of Cain. From these marriages sprung the giants (who, however, according to

Moses,



Antediluvians.

Moses, existed before); and these being as remarkable for their impiety as for their strength of body, tyrannized in a cruel manner, and polluted the earth with wickedness of every kind. This defection became at last so universal, that none were left in the holy mountain, except Noah, his wife, his three sons and their wives.

13  
Profane history. Berofus's Babylonian Antiquities.

Berofus, a Chaldean historian, who flourished in the time of Alexander the Great, enumerates ten kings who reigned in Chaldea before the flood; of whom the first, called *Alorus*, is supposed to be Adam, and Xifuthrus, the last, to be Noah.—This *Alorus* declared that he held his kingdom by divine right, and that God himself had appointed him to be the pastor of the people. According to our historian, in the first year of the world, there appeared out of the Red sea, at a place near the confines of Babylonia, a certain *irrational* animal called *Oannes*. He had his whole body like that of a fish; but beneath his fish's head grew another of a different sort (probably a human one). He had also feet like a man, which proceeded from his fish's tail, and a human voice, the picture of him being preserved ever after. This animal conversed with mankind in the day-time, without eating any thing: he delivered to them the knowledge of letters, sciences, and various arts: he taught them to dwell together in cities, to erect temples, to introduce laws, and instructed them in geometry: he likewise showed them how to gather seeds and fruits, and imparted to them whatever was necessary and convenient for a civilized life; but after this time there was nothing excellent invented. When the sun set, *Oannes* retired into the sea, and continued there all night. He not only delivered his instructions by word of mouth, but, as our author assures us, wrote of the origin of things, and of political economy. This, or a similar animal, is also mentioned by other authors.

Of *Alasporus*, the second king, nothing remarkable is related. His successor, *Amelon*, or *Amillarus*, was of a city called *Pantabibla*. In his time another animal resembling the former appeared, 260 years after the beginning of this monarchy. *Amelon* was succeeded by *Mctalarus*; and he by *Daonus*, all of whom were of the same city. In the time of the latter, four animals of a double form, half man and half fish, made their appearance. Their names were *Euedocus*, *Eneugamus*, *Encubulus*, and *Anementar*. Under the next prince, who was likewise of *Pantabibla*, appeared another animal of the same kind, whose name was *Odacon*. All these explained more particularly what had been concisely delivered by *Oannes*.

In the reign of the tenth king, Xifuthrus, happened the great deluge, of which our author gives the following account: *Cronus*, or *Saturn*, appeared to Xifuthrus in a dream, and warned him, that on the fifteenth of the month *Dæsius* mankind would be destroyed by a flood; and therefore commanded him to write down the original, intermediate state, and end of all things, and bury the writings under ground in *Sippara*, the city of the sun; that he should also build a ship, and go into it with his relations and dearest friends, having first furnished it with provisions, and taken into it fowls and four-footed beasts; and that, when he had provided every thing, and was asked whither he was sailing, he should answer, *To the gods, to pray for happiness to*

mankind. Xifuthrus did not disobey; but built a vessel, whose length was five furlongs, and breadth two furlongs. He put on board all he was directed; and went into it with his wife, children, and friends. The flood being come, and soon ceasing, Xifuthrus let out certain birds, which finding no food, nor place to rest upon, returned again to the ship. Xifuthrus, after some days, let out the birds again; but they returned to the ship, having their feet daubed with mud: but when they were let go the third time, they came no more to the ship, whereby Xifuthrus understood that the earth appeared again; and thereupon he made an opening between the planks of the ship, and seeing that it rested on a certain mountain, he came out with his wife, and his daughter, and his pilot: and having worshipped the earth, and raised an altar, and sacrificed to the gods, he and those who went out with him disappeared. They who were left behind in the ship, finding that Xifuthrus and the persons that accompanied him did not return, went out themselves to seek for him, calling him aloud by his name; but Xifuthrus was no more seen by them: only a voice came out of the air, which enjoined them, as their duty was, to be religious; and informed them, that on account of his own piety he was gone to dwell with the gods, and that his wife and daughter and pilot were partakers of the same honour. It also directed them to return to *Babylon*, and that, as the fates had ordained, they should take the writings from *Sippara*, and communicate them to mankind; and told them, that the place where they were was the country of *Armenia*. When they had heard this, they offered sacrifice to the gods, and unanimously went to *Babylon*; and when they came thither, they dug up the writings at *Sippara*, built many cities, raised temples, and rebuilt *Babylon*.

The Egyptians, who would give place to no nation, in point of antiquity, have also a series of king, who, as is pretended, reigned in *Egypt* before the flood; and, to be even with the Chaldeans, began their account the very same year that theirs does according to Berofus.

There was an ancient chronicle extant among the Egyptians, not many centuries ago, which contained 30 dynasties of princes who ruled in that country, by a series of 113 generations, through an immense space of 36,525 years, during which *Egypt* was successively governed by three different races; of whom the first were the *Aurita*, the second the *Meftræi*, and the third the Egyptians.

But this extravagant number of years *Manetho* (to whose remains we must chiefly have recourse for the ancient Egyptian history) has not adopted; however, in other respects, he is supposed to have been led into errors in chronology by this old chronicle, which yet seems to have been a composition since *Manetho's* time.

The account given by Berofus is manifestly taken from the writings of *Moses*; but we have another account of the first ages of mankind, in which no mention is made of the flood at all. This is contained in some fragments of a Phœnician author called *Sancho-niatho*, who is by some said to have been contemporary with *Gideon*, by others to have lived in the days of *King David*; while some boldly assert there never was

Antediluvians.

14  
Antediluvian kings of Egypt.

15  
Sancho-niatho's Phœnician history.



Antediluvians.

such a person, and that the whole is a fiction of Philo-Biblus in opposition to the books of Josephus, written against Apion. To gratify the reader's curiosity, however, we have subjoined an account of the first ten generations mentioned by him, which are supposed by the compilers of the Universal History to correspond to the generations mentioned by Moses before the flood.

Sanchoniatho having delivered his cosmogony, or generation of the other parts of the world, begins his history of mankind with the production of the first pair of mortals, whom Philo, his translator, calls *Protogonus* and *Æon*; the latter of whom found out the food which was gathered from trees.

Their issue were called *Genus* and *Genea*, and dwelt in Phœnicia: but when the great droughts came, they stretched forth their hands to heaven towards the sun; for him they thought the only God and Lord of heaven, calling him *Beelshamen*, which in Phœnician is *Lord of heaven*, and in Greek *Zeus*.

Afterwards from *Genus*, the son of *Protogonus* and *Æon*, other mortal issue was begotten, whose names were *Phos*, *Pur*, and *Phlox*; that is, *Light*, *Fire*, and *Flame*. These found out the way of generating fire, by the rubbing of pieces of wood against each other, and taught men the use thereof. They begat sons of vast bulk and height, whose names were given to the mountains on which they seized: so from them were named *Mount Cassius*, *Libanus*, *Antilibanus*, and *Braithys*.

Of these last were begotten *Memrumus* and *Hypsuranius*; but they were so named by their mothers, the women of those times, who without shame lay with any man they could light upon. *Hypsuranius* inhabited Tyre, and he invented the making of huts of reeds and rushes and the papyrus. He also fell into enmity with his brother *Ufous*, who first invented a covering for his body out of the skins of the wild beasts which he could catch. And when violent tempests of winds and rains came, the boughs in Tyre, being rubbed against each other, took fire, and burnt the wood there. And *Ufous*, having taken a tree, and broke off its boughs, was so bold as to venture upon it into the sea. He also consecrated two rude stones, or pillars, to fire and wind; and he worshipped them, and poured out to them the blood of such wild beasts as had been caught in hunting. But when these were dead, those that remained consecrated to them stumps of wood and pillars, worshipping them, and kept anniversary feasts unto them.

Many years after this generation came *Agreus* and *Halicus*, the inventors of the arts of hunting and fishing, from whom huntsmen and fishermen are named.

Of these were begotten two brothers, the inventors of iron and of the forging thereof: one of these, called *Chryser*, the same with *Hephestus*, or *Vulcan*, exercised himself in words and charms and divinations; found out the hook, bait, and fishing line, and boats slightly built; and was the first of all men that sailed. Wherefore he also was worshipped after his death for a god: and they called him *Zeus Michius*, or *Jupiter the engineer*; and some say his brother invented the way of making walls of brick.

Afterwards from this generation came two brothers; one of whom was called *Technies*, or the *Artist*; the

other *Geinus Autoclithon*, [the home-born man of the earth.] These found out to mingle stubble, or small twigs, with the brick earth, and to dry them in the sun, and so made tiling.

By these were begotten others; of which one was called *Agrus* [Field]; and the other *Ayrouerus*, or *Agrotes* [Husbandmen], who had a statue much worshipped, and a temple carried about by one or more yoke of oxen, in Phœnicia; and among those of Byblus he is eminently called the *greatest of the gods*. These found out how to make courts about men's houses, and fences and caves, or cellars. Husbandmen, and such as use dogs in hunting, derive from these; and they are also called *Aletæ* and *Titans*.

Of these were begotten *Amyneus* and *Magus*, who showed men to constitute villages and flocks.

In these men's age there was one *Eliun*, which imports in Greek *Hypsistus* [the most high] and his wife was named *Beruth*, who dwelt about Byblus: and by him was begot one *Epigerus*, or *Autoclithon*, whom they afterwards called *Uranus* [heaven]; so that from him that element which is over us, by reason of its excellent beauty, is called *heaven*: and he had a sister of the same parents called *Ge* [the earth]; and by reason of her beauty the earth had her name given to it.

*Hypsistus*, the father of these, dying in fight with wild beasts, was consecrated, and his children offered sacrifices and libations to him.—But *Uranus* taking the kingdom of his father, married his sister *Ge*, and had by her four sons; *Ilus*, who is called *Cronus*, [or Saturn]; *Betylus*; *Dagon*, who is *Siton*, or the god of corn; and *Atlas*: but by other wives *Uranus* had much issue.

As to the customs, policy, and other general circumstances of the Antediluvians, we can only form conjectures.

The only thing we know as to their religious rites is, that they offered sacrifices, and that very early, both of the fruits of the earth and of animals; but whether the blood and flesh of the animals, or only their milk and wool, were offered, is a disputed point.—

Of their arts and sciences, we have not much more to say. The Antediluvians seem to have spent their time rather in luxury and wantonness, to which the abundant fertility of the first earth invited them, than in discoveries or improvements, which probably they stood much less in need of than their successors. The art of working metals was found out by the last generation of Cain's line; and music which they might be supposed to practise for their pleasure, was not brought to any perfection, if invented, before the same generation. Some authors have supposed astronomy to have been cultivated by the Antediluvians, though this is probably owing to a mistake of Josephus: but it is to be presumed, the progress they made therein, or in any other science, was not extraordinary; it being every doubtful whether letters were so much as known before the flood. See ALPHABET.

As to their politics and civil constitutions, we have not so much as any circumstances whereon to build conjecture. It is probable, the patriarchal form of government, which certainly was the first, was set aside when tyranny and oppression began to take place, and much sooner among the race of Cain than that of Seth. It seems also, that their communities were but few, and consisted

Antediluvians.



Antediluvians. consisted of vastly larger numbers of people than any formed since the flood: or rather, it is a question, whether, after the union of the two great families of Seth and Cain, there were any distinction of civil societies, or diversity of regular governments, at all. It is more likely, that all mankind then made but one great nation, though living in a kind of anarchy, divided into several disorderly associations; which, as it was almost the natural consequence of their having, in all probability, but one common language, so it was a circumstance which greatly contributed to that general corruption which otherwise perhaps could not have so universally overspread the Antediluvian world. And for this reason chiefly, as it seems, so soon as the posterity of Noah were sufficiently increased, a plurality of tongues was miraculously introduced, in order to divide them into distinct societies, and thereby prevent any such total depravation for the future. See *CONFUSION of Tongues*.

Of the condition of the Antediluvians, Mr Whitehurst, in his *Inquiry into the original state and formation of the earth*\*, has given us the following picture: "Under a mild and serene sky, and when the spontaneous productions of the earth were more than sufficient for the calls of nature, without art or labour, mankind had no need of any other protection from the inclemency of the seasons, nor of barns for winter's store, than the benevolent Author of nature had plentifully provided for them. Consequently, in a state of nature like this, there was no temptation to acts of violence, injustice, fraud, &c. every one having plenty and enough, each equally partook of the numerous blessings thus amply provided for him. Power and property being equally diffused, men lived together in perfect peace and harmony, without law, and without fear; therefore it may be truly said of the Antediluvians, that they slept away their time in sweet repose on the ever-verdant turf. Such apparently was the state of nature in the first ages of the world, or from the creation to the first convulsion in nature, whereby the world was not only universally deluged, but reduced to a heap of ruins." But our ingenious author, whose *Inquiry* is not professedly repugnant to revelation, seems here to have lost himself in a pleasing reverie. At least he has forget to inform us, For what purpose, under such circumstances, he supposes the deluge to have been sent upon the earth; and, How we are to understand the account given by Moses, who represents the Antediluvians, not as an innocent race, quietly reposing on the ever-verdant turf, but as a corrupt generation, by whom "the earth was filled with violence."

17  
Of the longevity of the Antediluvians. One of the most extraordinary circumstances which occurs in the Antediluvian history, is the vast length of human lives in those first ages, in comparison with our own. Few persons now arrive to eighty or an hundred years; whereas, before the flood, they frequently lived to near a thousand: a disproportion almost incredible, though supported by the joint testimonies of sacred and profane writers. Some, to reconcile the matter with probability, have imagined that the ages of those first men might possibly be computed, not by solar years, but months; an expedient which reduces the length of their lives rather to a shorter period than our own. But for this there is not the least foundation; besides the many absurdities that would thence

Antediluvians. follow, such as their begetting children at about six years of age, as some of them in that case must have done, and the contraction of the whole interval between the creation and the deluge to considerably less than two hundred years, even according to the larger computation of the Septuagint.

Again: Josephus, the Jewish historian, and some Christian divines, are of opinion, that before the flood, and some time after, mankind in general did not live to such a remarkable age, but only a few beloved of God, such as the patriarchs mentioned by Moses. They reason in this manner: Though the historian records the names of some men whose longevity was singular, yet that is no proof that the rest of mankind attained to the same period of life, more than that every man was then of a gigantic stature, because he says, *in those days there were giants upon the earth*. Besides, had the whole of the Antediluvians lived so very long, and increased in numbers in proportion to their age, before the flood of Noah, the earth could not have contained its inhabitants, even supposing no part of it had been sea. And had animals lived as long, and multiplied in the same manner as they have done afterwards, they would have consumed the whole produce of the globe, and the stronger would have extinguished many species of the weaker. Hence they conclude, that, for wise and good ends, God extended only the lives of the patriarchs, and a few beside, to such an extraordinary length.

But most writers maintain the longevity of mankind in general in the early world, not only upon the authority of sacred, but likewise of profane history. And for such a constitution, the moral reasons are abundantly obvious. When the earth was wholly unpeopled, except by one pair, it was necessary to endow men with a stronger frame, and to allow them a longer continuance upon earth for peopling it with inhabitants. In the infant state of every mechanical art, relating to tillage, building, clothing, &c. it would require many years experience to invent proper tools and instruments to ease men of their labour, and by multiplied essays and experiments to bring their inventions to any degree of maturity and perfection. Every part of their work must have been exceedingly arduous from such a penury and coarseness of tools, and must have required longer time and more strength of body than afterwards, when mechanical knowledge was introduced into the world. If parents at this period had not continued long with their children, to have taught them the arts of providing for themselves, and have defended them from the attacks of wild beasts, and from other injuries to which they were exposed, many families would have been totally extinguished. But one of the best and most valuable ends which longevity would answer was, the transmitting of knowledge, particularly of religious knowledge, to mankind. And thus, before writing was invented, or any such easy and durable mode of conveyance was found out, a very few men served for many generations to instruct their posterity, who would not be at a loss to consult living and authentic records.

16  
Natural causes of it. The natural causes of this longevity are variously assigned. Some have imputed it to the sobriety of the Antediluvians, and the simplicity of their diet; alleging that they had none of those provocations to gluttony, which



Antediluvians.

which wit and vice have since invented. Temperance might undoubtedly have some effect, but not possibly to such a degree. There have been many temperate and abstemious persons in later ages, who yet seldom have exceeded the usual period.—Others have thought that the long lives of those inhabitants of the old world proceeded from the strength of their stamina, or first principles of their bodily constitutions: which might, indeed, be a concurrent, but not the sole and adequate cause of their longevity; for Shem, who was born before the deluge, and had all the virtue of the antediluvian constitution, fell three hundred years short of the age of his forefathers, because the greatest part of his life was passed after the flood.—Others have imputed the longevity of the Antediluvians to the excellency of their fruits, and some peculiar virtue in the herbs and plants of those days. But to this supposition it has been objected, that as the earth was cursed immediately after the fall, its productions we may suppose gradually decreased in their virtue and goodness till the flood; and yet we do not see the length of men's lives decrease considerably, if at all, during that interval. Waving this objection, as the import of the curse is variously interpreted, it appears certain that the productions of the earth were at first, and probably continued till after the deluge, of a different nature, from what they were in future times. Buffon supposes this difference may have continued gradually to diminish for many ages subsequent to that catastrophe. The surface of the globe (according to his theory) was in the first ages of the world less solid and compact; because, gravity having acted only for a short time, terrestrial bodies had not acquired their present density and consistence. The produce of the earth, therefore, must have been analogous to its condition. The surface being more loose and moist, its productions would of course be more ductile and capable of extension. Their growth, therefore, and even that of the human body, would require a longer time of being completed. The softness and ductility of the bones, muscles, &c. would probably remain for a longer period, because every species of food was more soft and succulent. Hence the full expansion of the human body, or when it was capable of generating, must have required 120 or 130 years; and the duration of life would be in proportion to the time of growth, as is uniformly the case at present: For if we suppose the age of puberty, among the first races of men, to have been 130 years, as they now arrive at that age in 14 years, the age of the Antediluvians will be in exact proportion to that of the present race; since by multiplying these two numbers by seven, for example, the age of the present race will be 98, and that of the Antediluvians will be 910. The period of man's existence, therefore, may have gradually diminished in proportion as the surface of the earth acquired more solidity by the constant action of gravity: and it is probable, that the period from the creation, to the days of David, was sufficient to give the earth all the density it was capable of receiving from the influence of gravitation; and consequently that the surface of the earth has ever since remained in the same state, and that the terms of growth in the productions of the earth, as well as the duration of life, have been invariably fixed from that period.

It has been further supposed, that a principal cause

of the longevity under consideration was the wholesome constitution of the Antediluvian air, which, after the deluge, became corrupted and unwholesome, breaking, by degrees, the pristine crasis of the body, and shortening men's lives, in a very few ages, to near the present standard.

The temperature of the air and seasons before that catastrophe are upon very probable grounds supposed to have been constantly uniform and mild: the burning heats of summer and the severities of winter's cold were not then come forth, but spring and autumn reigned perpetually together: And indeed, the circumstance above all others most conducive to the prolongation of human life in the postdiluvian world appears to be an equal and benign temperature of climate (see the article LONGEVITY); whence it seems reasonable to infer, that the same cause might have produced the same effect in the Antediluvian world.

Whether flesh was permitted to be eaten before the deluge, is a question which has been much debated. By the permission expressly given to Noah, for that purpose, after the flood, and God's assigning vegetables only for food to man, as well as beast, at the creation, one would imagine it was not lawful before: yet others have supposed, that it was included in the general grant of power and dominion given to Adam by God over the animal creation; and the distinction of beasts into clean and unclean, which was well known before the flood, is insisted on as a strong argument on this side.

But in answer to this it has been observed, that if so, it doth not appear what occasion there was to renew this grant after the flood, and to add, "Every moving thing that liveth shall be meat for you, even as the green herb have I given you all things." This surely implies that the green herb and fruits of the trees were all that was granted to man at first; but now, over and above that, was added the grant of animal food; for in a deed of gift, all is specified that is given or granted, and whatever is not expressly mentioned is excluded, or not given. Here man's food is appointed and specified; what is not expressly mentioned is therefore reserved and not granted. Besides, this grant or appointment of man's food respected not Adam only, but all his posterity, till an additional grant was made.

To the animals no further grant was made than at first; but to man another was made immediately after his fall and expulsion from Paradise, implied in these words: "In the sweat of thy face shalt thou eat bread, till thou return into the ground." This was in truth a punishment for his transgression, as well as a grant of other food, but yet what was now become necessary to him. Paradise no doubt was planted with the most excellent fruits, sufficient to have sustained his life in health and vigour in his innocent state; but after his transgression, being thrust out from that happy abode, and having then only the fruits of the common earth to feed on; which were not so nutritious as those of Paradise, he stood in need of something else to sustain life; and therefore bread produced by culture and other preparations for his food was now added, which before was not necessary, and thence called the *Staff of life*. This seems a plain reason why bread was added after he came to live on the common earth; though

Antediluvians.



Antediluvians. though perhaps another reason also for that addition may be given from the change that happened in man's body after his fall. Bread being now become the staff of life, Cain, the first man born, became a tiller of the ground, or an husbandman; as the next in birth, Abel, became a keeper or feeder of sheep.

As to the distinction between clean and unclean, this solely respected animals offered in sacrifice in the Antediluvian world; as is evident from hence, that Noah, upon his coming out of the ark "took of every clean beast and of every clean fowl, and offered burnt offerings unto the Lord;" and that upon the grant of animal food to him and his posterity, which was posterior in time to the sacrifice, there is not the least mention of any distinction between clean and unclean with respect to food, but the very contrary, since the grant runneth: "Every moving thing that liveth shall be meat for you, even as the green herb have I given you all things." That distinction of clean and unclean as to food, came in with the law of Moses, and was different from that of sacrifices, there being several creatures clean for food which were not to be offered in sacrifice.

But another objection here occurs. What occasion was there for keeping sheep, when none of them could be eaten? In answer to this, it has been observed, that sheep and other animals might at this period be of great use to men besides yielding them food. Their flocks, no doubt, consisted of such creatures as were of the domestic kind, and such as by the divine law were pronounced clean and fit for being offered in sacrifice; therefore numbers would be kept for this very purpose. Their skins, besides serving men as garments, might answer many other valuable intentions. Vestments of hair and wool soon succeeded the ruder coverings of skins; consequently great profit would be derived from such animals as could be shorn, especially in countries where the inhabitants led a pastoral life and dwelt in tents. And we afterwards find that Abel's sacrifice was of this kind. They might use several of these animals, as they still do in some parts of the world, for bearing of burdens and drawing of carriages: for we may take it for granted that the first inventions for easing men of labour, would be of the simplest kind, and such as came easiest to hand. But keeping flocks of sheep, goats, and such like, would be of great utility, by affording quantities of milk, which is found to be the most nourishing diet both to the young and the old: and their carcases, though not used as food, might answer some useful purposes perhaps in manuring the soil.

The Antediluvian world was, in all probability, stocked with a much greater number of inhabitants than the present earth either actually does, or perhaps is capable of containing or supplying. This seems naturally to follow from the great length of their lives, which exceeding the present standard of life in the proportion, at least, of ten to one, the Antediluvians must accordingly in any long space of time double themselves, at least in about the tenth part of the time in which mankind do now double themselves. It has been supposed that they began to beget children as early, and left off as late, in proportion, as men do now; and that the several children of the same father

succeeded as quickly one after another as they usually do at this day: and as many generations, which are but successive with us, were contemporary before the flood, the number of people living on the earth at once would be by that means sufficiently increased to answer any defect which might arise from other circumstances not considered. So that, if we make a computation on these principles, we shall find, that there was a considerable number of people in the world at the death of Abel, though their father Adam was not then 130 years old; and that the number of mankind before the deluge would easily amount to above one hundred thousand millions (even according to the Samaritan chronology), that is, to twenty times as many as our present earth has, in all probability, now upon it, or can well be supposed capable of maintaining in its present constitution.

The following table, made upon the above-mentioned principles by Mr Whiston, shows at least what a number of people might have been in the Antediluvian world.

Number of mankind.	Year of the world.	Year of doubling.	Series.
4	2	2	1
8	6	4	2
16	12	6	3
32	20	8	4
64	30	10	5
128	42	12	6
256	56	14	7
512	72	16	8
1024	90	18	9
2048	110	20	10
4096	132	22	11
8192	156	24	12
16,384	182	26	13
32,768	210	28	14
65,536	240	30	15
131,072	272	32	16
262,144	306	34	17
524,288	342	36	18
1,048,576	380	38	19
2,097,152	420	40	20
4,194,304	462	42	21
8,388,608	506	44	22
16,777,216	552	46	23
33,554,432	600	48	24
67,108,864	650	50	25
134,217,728	702	52	26
268,435,456	756	54	27
536,870,912	812	56	28
1,073,741,824	870	58	29
2,147,483,648	930	60	30
4,294,967,296	992	62	31
8,589,934,592	1056	64	32
17,179,869,184	1122	66	33
34,359,738,368	1190	68	34
68,719,476,736	1260	70	35
137,438,953,472	1332	72	36
274,877,906,944	1406	74	37
549,755,813,888	1482	76	38

But

21  
Increase of  
mankind  
before the  
flood.

Antediluvians.



Antediluvians.

\* Cockburn upon the Deluge.

22  
Objections to Mr Whiston's table.

But according to a later \* writer upon the subject, the above table, though the numbers there may be thought sufficient for the peopling of the earth, we could by no means depend upon, for several reasons; particularly,

1. It is laid down there as a foundation, that the Antediluvians would double themselves every forty years; as indeed they would, and in less time, after there came to be 100 marriages. Now, had the author observed this regular progression in his computation, by adding 40 years to every former period of the age of the world, the amount, instead of two millions of millions, &c. would have been above five millions of millions at the year 1656, the age of the world at the deluge, according to the Hebrew numbers, which he contends for. What would the sum then have been, had we carried on the computation for 600 years more, according to the Septuagint?

2. He supposes the period of doubling must have been much shorter in the earliest ages, and much longer in the later, contrary to reason and fact. For mankind being sprung from one pair only, the increase at first must have been very slow, but come on very fast when a considerable number were married. His table therefore is made not regularly, but according to fancy, by unequal starts or chasms, at great intervals in the latter part, where it should have been most regular; it would seem with no other view than to raise such a number, upon the whole, as might be thought sufficient to people the earth.

3. In that calculation the two material points, the time of nursing and the age of puberty, are quite overlooked, by which all computations of the numbers in the Antediluvian world must be regulated. What unavoidable mistakes this omission must occasion, will be seen by examining the first ten numbers of the said table.

Years of the world and intervals of doubling.	1	2	Adam and Eve.
	2	4	Cain and Abel.
	6	8	
	12	16	
	20	32	
	30	64	
	42	128	
	56	256	
	72	512	
	90	1024	
	110	2048	

On this table it may be observed, 1. That though there were but two persons created at first, this computation makes four persons in the second year of the world. This could not possibly be, except Cain had been born within 12 months after the creation, which is highly improbable, and Abel in the second year, yet far more improbable; for in that case Eve could not have suckled Cain.

Cockburn, p. 103.

2. In the sixth year of the world we have eight persons, that is, six children of Eve's in six years. "But (our author adds) what shall Eve do with six infants in six years? Where could she find so many wet nurses for them? Or would the mother of all living deny her children that nourishment which the Creator had appointed for their first food, the milk in her breasts?"

Antediluvians.

Do they consider that there was but one woman in the world to do for herself, her husband, and her children, what belongs to women to do? We should surely have more respect and compassion for the mother of all mankind, than to lay such an intolerable burden upon her, whose sorrow for her own deception, and thereby ruining both herself and her husband, must have been very great for many years. In punishment of which, though God had said *he would greatly multiply her sorrow and conception*, the meaning was not, that she should have a child every year, which could not be, because the nature of that food and nourishment appointed by himself for her children would not permit it. Nor yet when he commanded them to *increase and multiply and replenish the earth*, could the command be obeyed in such a manner as was contrary to the order of nature and providence. But the method intended to answer the design of the command was to prolong their lives to above 300 and 900 years, and their prolific powers for 340 and 360 years of that term of life, that by slow and sure and long continuance of increase they might people the earth in due time."

3. The same exception lies to all the following periods of doubling, where the number far exceeds what it could possibly be in fact; but we shall pass them over, and come to the last of them in the year 110, in which the number of mankind is made 2048. Now in the year 110 not one of Adam's children was married, because not yet come to the age of puberty. In that year of the world there could be no more than 18 or 20 persons, at single births, besides Adam and Eve. It is a great mistake therefore to imagine, that the periods of doubling were much shorter in the earlier times than in the latter; the contrary of which is evident to reason.

According to our author, two errors have been fallen into in treating of this point; namely, 1. That in the 11. p. 21. first ages of the world, both before and after the Flood, men began to propagate their kind as early as they commonly do at present. 2. That the children of the same father succeeded one after another as fast as they do now, that is, that the women brought forth children every year. The first of these errors he confutes, by shewing that the several periods or stages of man's life bear a just proportion to one another, and to the whole term of life; and that the period of puberty or maturity has not been the same at all times, but is according to the length or brevity of life in the different ages of the world, according to that remark of St Augustine, *Tanto serior fuit proportione pubertas, quanto vitæ totius major annositas*. Moses, he observes, gives the age of the world from the creation to the deluge, and from that period to his own time chiefly by generations. A generation is the interval of years between the births of father and son. This the Latins call *etas*, and the Greeks *γενεα*. Now, a generation, or the interval of years between father and son, has not been, neither possibly could be, the same in all ages from the beginning, as Vossius justly observes; but has varied greatly according to the length or brevity of man's life in the several periods of the world. Since the ordinary term of man's life has been reduced to 70 and 80 years, the time of puberty is in proportion to this brevity of life, and reckoned at 20 or 21, which is the fourth part of a life of fourscore. The several stages

23  
Of the ages of puberty among the Antediluvians.



Antediluvians.

stages of human life are infancy, childhood, youth, manhood, full age, declension, old or decrepit age; all which commonly bear a proportion to the whole term of life. Now the bounds and limits of these several stages cannot be precisely the same in all, but vary in respect of the disposition of men's bodies, their course of life, and also the places and ages in which they live. In the Antediluvian world then, when men lived to upwards of 800 and 900 years, can it be thought that they passed through the several stages of life in as short time as men do now, who seldom exceed 80, and not one in ten arrives at that age? But if the Antediluvians arrived at puberty or manhood as soon as men do now, then would the several stages of human life have been lost or confounded, and men would have started from childhood to manhood at once, without any due or regular intervals, contrary to the order of nature: But if, according to the present economy of nature, man is but a youth at 20, which is a fourth part of our term of life, we may reasonably conclude, there would be a suitable proportion of years in a much longer term of life, since nature is constant and uniform in her operations. And though in so long a life as the Antediluvians enjoyed, the time of puberty might be a fifth or a sixth part of their term of life, yet would they be but youths at 150 or 160; which bears much the same proportion to the whole of their life as 20 is to that of ours.

The other is an error, he thinks, which could never have been fallen into, had it been considered, that every mother suckled her own children in those early days; and indeed where could she have found another to have done it for her?

Taking it for granted, then, that it was an universal custom for women to suckle their children as well before as after the flood, the next question is, for how long time they continued nurses? He shows various instances, that when man's life was reduced to 130 or 140 years, the ordinary time of nursing was two years: he thence infers, that for three or four generations after the flood, when men lived to about 400 years, the time would be so much longer in proportion, and would not be less than three or four years; and consequently, that before the flood, when life was protracted to 800 or 900 years, it would be still longer in proportion to their longevity; so that five years might be the ordinary time of nursing in the old world; and therefore that we cannot reckon less than six years between the births. For man's life being prolonged to so many hundred years at first for the more speedy peopling of the earth, he came by slow degrees to mature age, there being a long time required to rear up a body that was to last near 1000 years. The intervals therefore of infancy, childhood, youth, and mature age, were so much longer in proportion to ours as the difference is between our term of life and theirs: and 150 or 160 years, with respect to their longevity, was no more in proportion than 20 is to the brevity of our life. As the Antediluvians therefore were so very long in growing up to mature age, he concludes that the time of nursing could not be shorter than five years, and that the distance between the births in a regular way must be set at six years.

Upon the whole, he thinks it evident that there could be no such speedy increase of mankind at the be-

VOL. II. Part II.

ginning as is imagined; that the time of nursing above specified was no more than necessary for that strength of constitution which was to last for 800 and 900 years; and that women who were to continue bearing children for 340 or 360 years of their life, should have them but slowly, and at the distance of several years, that their strength might hold out, and that they might not be overburthened with too many cares at once; and therefore, when Eve's first child was six years old, it was time enough for her to have another, and so on, though possibly sometimes twins.

These points being discussed, he proceeds, 1. To compute what number upon the whole might be born into the world from the creation to near the time of the deluge; and then, 2. To state the needful deductions for deaths and other deficiencies.

I. 1. How long the parents of mankind continued in paradise, we know not; though longer perhaps than is commonly imagined. We shall even suppose two or three years, in which time there was no child born, nor any attempt towards it. We shall allow them two or three years more to lament their fall, and the miserable estate their want of faith and disobedience had brought them to, from a most happy condition; and suppose Cain to be born six years after the creation (in which supposition few, probably, will be apt to think us too hasty), and Abel again six years after him, and so every sixth year Eve to have had a child, the first seven, eight, or nine whereof were probably all males (the males being longer in coming to maturity than the females); and this distance between the births will also be thought a sufficient allowance. At this rate of increase Adam would have in 100 years 16 children, in 200 years 32, and in 400 years 64 children; when we will suppose Eve to have left off child-bearing. Nor need this number of Adam's children be thought too great, when there are instances in these later ages, and this short period of man's life, of those who have had 40 children at single births by two successive wives, and of many others who have had 20, 25, and 30, by one wife; though in such cases it is not to be supposed that the women suckled their children.

2. Though it is reasonable to think that the Antediluvians, notwithstanding their longevity, came to mature age at 150; yet as we are not sure that they all married so soon as they were ripe for marriage, and that the earliest in the genealogies is born in the 162d year of his father, who might probably be a first born, our author does not suppose Cain, Abel, or any of the succeeding children or grandchildren of Adam to have married till they were 160, but to have had children from 161 or 162 till they were of the age of 500, at the fore-named distance or interval between the births; though Noah we know had three sons after he was 500, at the due intervals. And to all the Antediluvians we may allow, without fear of exceeding, 50 or 54 children in general, according to the course of nature, and the longevity of those first ages of the world.

3. Let us next inquire in what number of years the men of that world might double themselves, notwithstanding the long intervals between the births. The increase indeed will be found very small for the first 300 or 400 years, as they were late in coming to maturity; but the succeeding ages will swell the account

3 G exceedingly.

Antediluvians.

26

Cockburn's calculation of the increase of mankind.

24  
Of the time allotted for nursing in those early days.

25  
Distance between the births.



Antediluvians. exceedingly. Let us suppose at present (what shall be proved afterwards) that in the year of the world 500, there were 200 persons only, male and female, of full age to marry, the men at 160, the women at 120 or thereabout. The first or second year after the marriage will probably produce 100 births from 100 couple, and every sixth year after 100 more. At this slow progression the 200 married persons will, in 19 or 20 years, be increased to 600: so that the number of mankind would be trebled in 20 years, after there came 100 pair to be married. And in this manner they would increase and multiply every 20 years, or in that space treble themselves.

It may perhaps be objected, that though it appears that such an increase might be at first from the first 100 marriages, yet they could not continue thus to multiply at such periods; because, according to the rule we have laid down, none of the issue of these 100 first marriages could increase the number of mankind till the men had attained the age of 160. It is true they could not: but then it must be remembered, that the first 100 pair are still adding every sixth year 100 more to the number of mankind, even till after the 400 born in the first 20 years are married, and begin a new stock for increase; so that when there came to be some hundred couples married, the increase and multiplication would come on very fast, and in 1000 years mankind would be prodigiously increased.

But though there be nothing in this supposition contrary to reason, viz. That after the year of the world 500, they might treble themselves in 20 years; yet we will not reckon upon so short an interval, but will allow a much longer time even to their doubling themselves, and shall exhibit two tables of doubling; the first at the interval of 50 years (much too long indeed), the other at the interval of 40 years, and both beginning at the year 500, when there could not be fewer (whatever more there might be) than 100 married or marriageable persons descended from Adam and Eve.

Years of the World.	Number of Mankind.
500	200
550	400
600	800
650	1,600
700	3,200
750	6,400
800	12,800
850	25,600
900	51,200
950	102,400
1000	204,800
1050	409,600
1100	819,200
1150	1,638,400
1200	3,276,800
1250	6,553,600
1300	13,107,200
1350	26,214,400
1400	52,428,800
1450	104,857,600
1500	209,715,200
1550	419,430,400
1600	838,860,800
1650	1,677,721,600

Years of the World.	Number of Mankind.
1700	3,335,443,200
1750	6,710,886,500
1800	13,421,772,800
1850	26,843,545,600
1900	53,687,091,200
1950	107,374,182,400
2000	214,748,364,800
2050	429,496,729,600

This table is calculated at the long interval of 50 years, that it may appear that even by under-rating the number of mankind, there would be so many millions born into the world before the deluge came, that they would be obliged to spread themselves over the face of the earth, though but one half of the sum total of 429,496 millions had been alive at the time of the deluge; but as the interval here allowed may appear to be too long for the time of doubling, the second is calculated at the interval of 40 years, which comes nearer to the truth of the case, though even this may exceed the time of doubling.

Years of the World.	Number of Mankind.
500	200
540	400
580	800
620	1,600
660	3,200
700	6,400
740	12,800
780	25,600
820	51,200
860	102,400
920	204,800
940	409,600
980	819,200
1020	1,638,400
1060	3,276,800
1100	6,553,600
1140	13,107,200
1180	26,214,400
1220	52,428,800
1260	104,857,600
1300	209,715,200
1340	419,430,400
1380	838,860,800
1420	1,677,721,600
1460	3,355,443,200
1500	6,710,886,400
1540	13,421,772,800
1580	26,843,545,600
1620	53,687,091,200
1660	107,374,182,400
1700	214,748,364,800
1740	429,496,729,600
1780	858,993,459,200
1820	1,717,986,918,400
1860	3,435,973,836,800
1900	6,871,947,673,600
1940	13,743,895,347,200
1980	27,487,790,694,400
2020	54,975,581,388,800

The first table is brought down no lower than to the year 2050, and the second to the year 2020, though



Antediluvians. though there remain by the first 206, and by the second 236 years to the flood: the reason is, that in those last 200 years of the world, mankind would not increase in any measure equal to what they had done in the preceding years (though regularly the increase should have been much greater); because that violence was then great in the earth, and thousands, yea millions, might have been cut off by untimely deaths; for which cause the world's destruction was determined 120 years before the flood came.

27  
Objection answered. II. But now against this immense number of mankind that might in a regular and ordinary way have been born into the world between the creation and the deluge in 2056 years, it will no doubt be objected by some (as it has been done to far less numbers), that all such calculations are mere guess work, the product of fruitful imaginations.

But it should be considered, that in calculations of this nature some regular order or method must be observed: and though, according to the course of nature, such an increase and multiplication of mankind there might have been periodically, especially at the beginning, when the command was *to increase and multiply and replenish the earth*; yet we will not suppose that all things went on thus regularly, without difference or interruption. We do not know what extraordinary obstructions or interruptions there might be to such a regular increase. Though every married pair might by the course of nature have had such a number of children as has been mentioned, yet the Divine Providence might order it otherwise in manifold instances, and it might possibly be in the old world, as it has been since the flood, viz. that some marriages have produced many children, others few, and some none at all. Allowing, therefore, for all such obstructions and deficiencies, and likewise for all casualties and accidents (to which men might be liable in that world as well as in the present), in as ample a manner as can be desired, let the former number be reduced to one half, viz. to 27,487,790,694,400, that is, 27 billions, or millions of millions, four hundred and eighty-seven thousand seven hundred and ninety millions, six hundred and ninety-four thousand and four hundred. And this we shall now suppose to be the whole number of those who were born into the world before the deluge. But from this sum is to be subtracted the number of those who died before that time.

Of those in the genealogies from Adam by Seth, Enoch was translated at the age of 365, Lamech the father of Noah died just before the flood at 753, Mahalaleel at 895. Adam and the other five patriarchs lived to above 900. Before the year 900, therefore, we may suppose there were no deaths except that of Abel, who was slain, a young man, but that all born within that period were alive together. But in the tenth century death began to reign, and Adam and Eve, we may presume, were the first over whom death had power in a natural way, as their disobedience was the cause of it. The children also born of them in the first hundred years would also die in this 10th century, those born in the second hundred would die in the 11th, those born in the third century would die in the 12th, and so on. But though we are far from thinking that after the beginning of the 10th century (till which time few or none died), the deaths would be equal to

the births; yet as we have made large concessions all along, we shall do the same in this case, and suppose them upon the whole to have been equal, especially since we cannot precisely say how long that violence or bloodshed, which was their crying sin, came to prevail; and therefore will reduce the last sum mentioned to one half again, to allow for the deaths and prevailing violence, and suppose the total number of mankind alive upon earth at the time of the deluge to have been no more than 13,743,895,347,200, that is, 13 billions or millions of millions, seven hundred and forty-three thousand eight hundred and ninety-five millions, three hundred and forty-seven thousand and two hundred; a number vastly exceeding that of the present inhabitants of the whole earth.

28  
Notwithstanding the very large allowances and abatements made to reduce the number of mankind, yet even the last reduction to 13 billions, or millions of millions, &c. seems so vastly great, that it will hardly be thought possible that such a number of men could ever be at one time upon the earth. Now, though we pretend to no certainty in this point (which made it the more requisite to allow largely for deaths and deficiencies), yet the calculation we have given must appear highly probable, since it is founded upon grounds certain and undeniable: for instance,

1. It cannot be denied but that the Antediluvians were come to the age of puberty and marriage at 160 years, when we find a son born in 162. Nor,

2. Can it be said, that they could not have children at the age of 500, when we have an instance of one that had three sons at due distances after that age. Neither,

3. Can it be alleged that we have not allowed a due distance or interval between the births, viz. six years, when most will be of opinion that it could not be so long. Nor yet,

4. Can it be judged that we have made the period of doubling far too short, when we had before showed that after 100 marriages consummated, they would treble themselves in half the time we have taken for their doubling. Nor,

5. Will any one make a doubt, but that there might be 200 persons of mature age for marriage in the year of the world 500, the men at 160, the women younger. Nevertheless, as this is the foundation of our calculation, we shall now show that there was at least such a number of persons marriageable at that age of the world.

It may be observed, that as we take 160 for the year of maturity and marriage, according to that period all married or marriageable in the year 500 must have been born in or before the year 340; the males at least, though the females coming sooner to maturity, might some of them be born later or after the year 380. Now, according to this stated period of marriage,

1. In or before the year 340, Adam might have had 54 children, males and females, or 27 pair married or fit for marriage.

2. Cain, whom we suppose to be but six years younger than Adam (which by the by is more than others allow), and to have married in the year 166, might have in the year 340, 28 children, or 14 pair fit for marriage, which added to the former, makes 41 pair.



Antediluvians  
||  
Antenati.

3. Abel, married six years later, that is, in the year 172, and whom we shall suppose slain in the year 225 or 226, could in that case have no more than eight or nine children, or four pair, which with the former make 45 pair.

4. Adam's third son, married in the year 178, will afford us in the year 340, 26 children, or 13 pair, which increase the number of marriageable persons to 58 pair.

5. A fourth son of Adam's, married in the year 184, will give us in the year 340, 25 children, or 12 pair; which makes the number of pairs 70.

6. A fifth son of Adam's, married in the year 190, might in the year 340 have 24 children, or 12 pair again, which increase the former number to 82 pair.

7. A sixth son of Adam's, married in the year 196, would have in the year 340, 22 children, or 11 pair; which added to the former make up 93 pair.

8. A seventh son of Adam's, married in the year 202, will, in the year 340, give us 20 children, or 10 pair; which makes in the whole 103 pair, already three pair more than we reckoned upon. I need therefore go no farther on to the eighth or ninth son; but the following eight or nine births I may reasonably take to have been daughters, and married to the brothers that preceded them.

Here are now no more than 14 children of Adam's married, who have given us the 100 pair we have reckoned upon, and three over. We might yet have 13 pair to bring into the account, all born before the year 340, and marriageable in the year 500, which would very much increase the number of mankind. And by this the reader may perceive that we have been far from building on uncertain or precarious foundations, since we have omitted 13 pair more, which we might have taken into the account. And if it be considered that the command given to Adam was to increase and multiply and replenish the earth, no doubt can be made, but that his own and his children's marriages were fruitful in the procreation of children, that the earth might be inhabited.

ANTEGO. See ANTIGUA.

ANTEJURAMENTUM, by our ancestors called *juramentum calumnie*, an oath which anciently both accuser and accused were to take before any trial or purgation.—The accuser was to swear that he would prosecute the criminal; and the accused to make oath, on the day he was to undergo the ordeal, that he was innocent of the crime charged against him.

ANTELOPE, in *Zoology*. See CAPRA.

ANTELUCAN, in *Ecclesiastical Writers*, is applied to things done in the night or before day. We find frequent mention of the antelucan assemblies (*Cæsus antelucani*) of the ancient Christians in times of persecution for religious worship.

ANTEMURALE, in the *Ancient Military Art*, denotes much the same with what the moderns call an *out-work*.

ANTENATI, in *Modern English History*, is chiefly understood of the subjects of Scotland, born before King James the First's accession to the English crown, and alive after it. In relation to these, those who were born after the accession were denominated *Postnati*. The antenati were considered as aliens in England,

whereas the postnati claimed the privilege of natural subjects.

ANTENCLEMA, in *Oratory*, is where the whole defence of the person accused turns on criminating the accuser. Such is the defence of Orestes, or the oration for Milo: *Occisus est, sed latro. Exsecutus, sed raptor*.

ANTENICENE, in *Ecclesiastical Writers*, denotes a thing or person prior to the first council of Nice. We say the Antenicene faith, Antenicene creeds, Antenicene fathers.

ANTENNÆ, in the history of insects, slender bodies with which nature has furnished the heads of these creatures, being the same with what in English are called *horns* or *feelers*. See ENTOMOLOGY *Index*.

ANTENOR, a Trojan prince, came into Italy, expelled the Enganians on the river Po, and built the city of Padua, where his tomb is said to be still extant.

ANTEPAGMENTA, in the *Ancient Architecture*, the jambs of a door. They are also ornaments, or garnishings, in carved work, of men, animals, &c. made either of wood or stone, and set on the architrave.

ANTEPENULTIMA, in *Grammar*, the third syllable of a word from the end, or the last syllable but two.

ANTEPILANI, in the Roman armies, a name given to the hastati and principes, because they marched next before the triarii, who were called *pilani*.

ANTEPILEPTICS, among *Physicians*, medicines esteemed good in the epilepsy.

ANTEPOSITION, a grammatical figure, whereby a word, which by the ordinary rules of syntax ought to follow another, comes before it. As when, in the Latin, the adjective is put before the substantive, the verb before the nominative case, &c.

ANTEPREDICAMENTS, among *Logicians*, certain preliminary questions which illustrate the doctrine of predicaments and categories.

ANTEQUIERA, a handsome town of Spain, in the kingdom of Granada, divided into two parts, the upper and lower. The upper is seated on a hill, and has a castle: the lower stands in a fertile plain, and is watered with a great number of brooks. There is a large quantity of salt in the mountain; and five miles from the town, a spring famous for the cure of the gravel. W. Long. 4. 40. N. Lat. 36. 51.

ANTERIOR, denotes something placed before another, either with respect to time or place.

ANTEROS, in *Mythology*, one of the two Cupids who were the chief of the number. They are placed at the foot of the Venus of Medicis; this is represented with a heavy and sullen look, agreeably to the poetical description of him, as the cause of love's ceasing. The other was called Eros.

ANTESIGNANI, in the Roman armies, soldiers placed before the standards, in order to defend them, according to Lymphus; but Cæsar and Livy mention the antesignani as the first line, or first body, of heavy-armed troops. The velites, who used to skirmish before the army, were likewise called *antesignani*.

ANTESTATURE, in *Fortification*, a small re- trenchment

Antenclema  
||  
Antestature.



Antestari trenchment made of palisadoes, or facks of earth, with a view to dispute with an enemy the remainder of a piece of ground.

ANTESTARI, in *Roman Antiquity*, signifies to bear witness against any one who refused to make his appearance in the Roman courts of judicature, on the day appointed, and according to the tenor of his bail. The plaintiff, finding the defendant after such a breach of his engagement, was allowed to carry him into court by force, having first asked any of the persons present to bear witness. The person asked to bear witness in this case, expressed his consent by turning his right ear, which was instantly taken hold of by the plaintiff, and this was to answer the end of a subpoena. The ear was touched upon this occasion, says Pliny, as being the seat of memory, and therefore the ceremony was a sort of caution to the party to remember his engagement.

ANTHELION. See CORONA and PARHELION.

ANTHELIX, in *Anatomy*, the inward protuberance of the external ear, being a semicircle within, and almost parallel to the helix. See ANATOMY.

ANTHELMINTICS, among *Physicians*, medicines proper to destroy worms.

ANTHEM, a church song performed in cathedral service by choristers, who sung alternately. It was used to denote both psalms and hymns, when performed in this manner. But, at present, anthem is used in a more confined sense, being applied to certain passages taken out of the scriptures, and adapted to a particular solemnity. Anthems were first introduced in the reformed service of the English church, in the beginning of the reign of Queen Elizabeth.

ANTHEMIS, CHAMOMILE. See BOTANY Index.

ANTHERA, in *Botany*, that part of the stamen which is fixed on the top of the filamentum, within the corolla: it contains the pollen or fine dust, which, when mature, it emits for the impregnation of the plant, according to Linnæus. The APEX of Ray, Tournefort and Rivin.; *Capsula staminis*, of Malpighi.

ANTHERICUM, SPIDER-WORT. See BOTANY Index.

ANTHESPHORIA, in *Antiquity*, a Sicilian festival instituted in honour of Proserpine. The word is derived from the Greek *ανθος*, flower, and *φερω*, I carry; because that goddess was forced away by Pluto when she was gathering flowers in the fields. Yet Festus does not ascribe the feast to Proserpine; but says it was thus called by reason ears of corn were carried on this day to the temples.—Anthesphoria seems to be the same thing with the *florifertum* of the Latins, and answers to the harvest-home among us.

ANTHESTERIA, in *Antiquity*, was a feast celebrated by the Athenians in honour of Bacchus. The most natural derivation of the word is from the Greek *ανθος* (*flor*), a flower, it being the custom at this feast to offer garlands of flowers to Bacchus.

The antheateria lasted three days, the 11th, 12th, and 13th of the month; each of which had a name suited to the proper office of the day. The first day of the feast was called *πιδουρια*, i. e. *opening of the vessels*, because on this day they tapped the vessels, and tasted the wine. The second day they called *χοος*, *congii*, the name of a measure containing the weight of 10 pounds;

on this they drank the wine prepared the day before. The third day they called *κασσειαι*, *kettles*: on this day they boiled all sorts of pulse in kettles; which however they were not allowed to taste, as being offered to Mercury.

ANTHESTERION, in *Ancient Chronology*, the sixth month of the Athenian year. It contained 29 days; and answered to the latter part of our November and beginning of December. The Macedonians called it *desion* or *desion*. It had its name from the festival antheateria kept in it.

ANTHISTIRIA, in *Botany*. See BOTANY Index.

ANTHOCEROS, or HORN-FLOWER. See BOTANY Index.

ANTHOLOGION, the title of the service book used in the Greek church. It is divided into 12 months, containing the offices sung throughout the year, on the festivals of our Saviour, the Virgin, and other remarkable saints.

ANTHOLOGY, a discourse of flowers, or of beautiful passages from any authors.—It is also the name given to a collection of epigrams taken from several Greek poets.

ANTHOLYZA, MAD-FLOWER. See BOTANY Index.

ANTHONY, SAINT, was born in Egypt in 251, and inherited a large fortune, which he distributed among his neighbours and the poor, retired into solitude, founded a religious order, built many monasteries, and died *anno* 356. Many ridiculous stories are told of his conflicts with the devil and of his miracles. There are seven epistles extant attributed to him.

St Anthony is sometimes represented with a fire by his side, signifying that he relieves persons from the inflammation called after his name; but always accompanied by a hog, on account of his having been a swineherd, and curing all disorders in that animal. To do him the greater honour, the Romanists in several places keep at common charges a hog denominated *St Anthony's hog*, for which they have great veneration. Some will have St Anthony's picture on the walls of their houses, hoping by that to be preserved from the plague; and the Italians, who do not know the true signification of the fire painted at the side of their saint, concluding that he preserves houses from being burnt, invoke him on such occasions. Both painters and poets have made very free with this saint and his followers: the former, by the many ludicrous pictures of his temptation; and the latter, by divers epigrams on his disciples or friars; one of which is the following, printed in Stephen's World of Wonders:

Once fedd'st thou, Anthony, an herd of swine,  
And now an herd of monks thou feedest still.  
For wit and gut alike both charges bin;  
Both loven filth alike; both like to fill  
Their greedy paunch alike: nor was that kind  
More beastly, sottish, swinish, than this last.  
All else agrees: one fault I only find,  
Thou feedest not thy monks with oaken mast.

ANTHONY or Knights of St ANTHONY, a military order, instituted by Albert duke of Bavaria, Holland, and Zealand, when he designed to make war against the Turks in 1382. The knights wore a collar of gold;

Antestari  
||  
Anthe-  
staria.

Anthe-  
sterion  
||  
Anthony.



St Anthony gold made in form of a hermit's girdle, from which hung a stick cut like a crutch, with a little bell, as they are represented in St Anthony's pictures.

Anthropo-  
latria.

St ANTHONY also gives the denomination to an order of religious founded in France about the year 1095, to take care of those afflicted with St Anthony's fire; (see the next article.)—It is said, that, in some places, these monks assume to themselves a power of giving, as well as removing, the *ignis sacer*, or erysipelas; a power which stands them in great stead for keeping the poor people in subjection, and extorting alms. To avoid the menaces of these monks, the country people present them every year with a fat hog a piece. Some prelates endeavoured to persuade Pope Paul III. to abolish the order; *questuarius istos sancti Anthonii, qui decipiunt rulos et simplices, eosque innumeris superstitionibus implicent, de medio tollendos esse.* But they subsist, notwithstanding, to this day, in several places.

St ANTHONY'S FIRE, a name properly given to the erysipelas. Apparently it took this denomination, as those afflicted with it made their peculiar application to St Anthony of Padua for a cure. It is known, that anciently particular diseases had their peculiar faints: thus, in the ophthalmia, persons had recourse to St Lucia; in the toothach, to St Apollonia; in the hydrophobia, to St Hubert, &c.

ANTHORA, in Botany, the trivial name of a species of aconitum. See ACONITUM, BOTANY Index.

ANTHORISMUS, in Rhetoric, denotes a contrary description or definition of a thing from that given by the adverse party.—Thus, if the plaintiff urge, that to take any thing away from another without his knowledge or consent, is a theft; this is called *egres*, or definition. If the defendant reply, that to take a thing away from another without his knowledge or consent, provided it be done with design to return it to him again, is not theft; this is an *Antologismos*.

ANTHOSPERMUM, the AMBER TREE. See BOTANY Index.

ANTHOXANTHUM, or VERNAL GRASS. See BOTANY Index.

ANTHRACIS, ANTHRACIAS, or ANTHRACITIS, names promiscuously used by ancient naturalists for very different fossils, viz. the carbuncle, hæmatites, and a kind of arteria. See CARBUNCLE, &c.

ANTHRACOSIS, in Medicine, a corrosive scaly ulcer either in the bulb of the eye or the eyelids.

ANTHRAX, a Greek term, literally signifying a burning coal, used by the ancients to denote a gem, as well as a disease, more generally known by the name of carbuncle.

ANTHRAX is sometimes also used for lithanthrax or pit coal.

ANTHROPOGLOTTUS, among Zoologists, an appellation given to such animals as have tongues resembling that of mankind, particularly to the parrot kind.

ANTHROPOGRAPHY, denotes the description of the human body, its parts, structure, &c. See ANATOMY.

ANTHROPOLATRÆ, in Church History, an appellation given to the Nestorians, on account of their worshipping Christ, notwithstanding that they believed him to be a mere man.

ANTHROPOLATRIA, the paying divine ho-

nours to a man; supposed to be the most ancient kind of idolatry.

Anthropo-  
lites.

ANTHROPOLITES, a term denoting petrifications of the human body, as those of quadrupeds are called *zoolites*.

It has been doubted whether any real human petrifications ever occur, and whether those which have been supposed such were not mere *lusus naturee*. But the generality of naturalists best versed in this branch assure us of real anthropolites being sometimes found. And indeed, as it is universally admitted that the *zoolites* are frequently seen, what negative argument therefore can be brought against the existence of the others? Are not the component parts of the human body nearly similar to those of the brute creation? Consequently, correspondent matter may be subject to, and acquire, the like accidental changes, wherever the same power or causes concur to act upon either object. If the former are not so common, it may be accounted for, in some measure, by reflecting that human bodies are generally deposited in select and appropriated places; whereas the bones of animals are dispersed everywhere, and falling into various beds of earth, at a greater or less depth, there is more probability of their encountering the petrifying agent. Could we credit some authors who have treated on this subject, they will tell us of entire bodies and skeletons that were found petrified. One in particular, discovered at Aix in Provence anno 1583, in a rocky cliff, the cerebrum whereof, when struck against a piece of steel, produced sparks, the bones being at the same time friable. The reports of Happel and Kircher are too absurd for belief. Van Helmont's strange relations, together with those of Jean à Costa, must also be rejected as fabulous. Scheuhzer has published an engraved figure, which he calls the *Antediluvian man*: how far it is authentic, it would be rash to say. It is, however, asserted by many respectable writers on natural history, that whole skeletons petrified have been brought to light from certain old mines, which remained closed up and disused for several centuries. These indeed are acknowledged to be very rare. Yet it is a known fact, that detached parts, osteolithi, are sometimes found, especially in situations where either the water, the soil, or both, have been observed to possess a strong putrescent quality. The human vertebrae, fragments or portions of the tibia, and even the whole cranium itself, have been seen in an absolute state of petrification. Some of these are said to appear vitriolated or mineralized. As to the petrified bones of pretended giants, they are more probably real *zoolites*, the bones of the larger animals. All these bones are found in various states, and under different appearances. Some are only indurated; others calcined, vitriolated, or mineralized; some, again, are simply incrusted; whilst others have been proved completely petrified. Notwithstanding what is here advanced, it may be granted that a positive *lusus naturee*, in some hands, is repeatedly mistaken for a real petrification. They are, however, distinguishable at all times by an experienced naturalist; particularly by the two following rules: First, We may determine that fossil a *lusus naturee* which, on a strict examination, is observed to deviate in any material degree from the true *res analogica existens*. Secondly, By the same parity of reasoning, those fossil shells



Anthropology  
 ||  
 Anthropophagi.

shells are to be esteemed certain petrifications, and genuine Antediluvian *reliquiæ*, in which, on a comparison with their *analogues* collected from the sea, there appears an exact conformity in size and figure. This comparative observation will hold good for all fossils; that is, such as present themselves either under the animal or vegetable form. It is nevertheless worthy of notice, that all testaceous fossils are not petrified; since some kinds of them have been found in beds of sand, which retained their original perfect shape and quality, but at the same time they proved very brittle, indeed scarcely bearing the most gentle touch. Shells of this description are always dissoluble by acids, in contradistinction to the petrified or calcareous fossil shells, whose property it is to resist the action of such like *menstrua*. See further the article PETRIFICATION.

ANTHROPOLOGY, a discourse upon human nature.

ANTHROPOLOGY, among *Divines*, denotes that manner of expression by which the inspired writers attribute human parts and passions to God.

ANTHROPOMANCY, a species of divination, performed by inspecting the entrails of a human creature.

ANTHROPOMORPHA, a term formerly given to the primates of that class of animals which have the greatest resemblance to the human kind.

ANTHROPOMORPHISM, among *Ecclesiastical Writers*, denotes the heresy or error of the Anthropomorphites. See the next article.

ANTHROPOMORPHITES, in *Church History*, a sect of ancient heretics, who, taking every thing spoken of God in Scripture in a literal sense, particularly that passage of Genesis in which it is said *God made man after his own image*, maintained that God had a human shape. They are likewise called *Audeans*, from Audeus their leader.

ANTHROPOMORPHOUS, something that bears the figure or resemblance of a man. Naturalists give instances of anthropomorphous plants, anthropomorphous minerals, &c. These generally come under the class of what they call *lusus natureæ*, or monsters.

ANTHROPOPATHY, a figure or expression by which some passion is ascribed to God, which properly belongs only to man.

ANTHROPOPHAGI, (of *ανθρωπος* a man, and *φαγω* to eat, MEN-EATERS.) That there have been, in almost all ages of the world, nations who have followed this barbarous practice, we have abundance of testimonies.

The Cyclops, the Lestrygons, and Scylla, are all represented in Homer as *Anthrophophagi*, or man-eaters; and the female phantoms, Circe and the Sirens, first bewitched with a show of pleasure, and then destroyed. This, like the other parts of Homer's poetry, had a foundation in the manners of the times preceding his own. It was still, in many places, the age spoken of by Orpheus,

When men devour'd each other like the beasts,  
 Gorging on human flesh.—

According to Herodotus, among the Efedonian Scythians, when a man's father died, the neighbours brought several beasts, which they killed, mixed up

their flesh with that of the deceased, and made a feast. Among the *Massagetæ* when any person grew old, they killed him and ate his flesh; but if he died of sickness, they buried him, esteeming him unhappy. The same author also assures us, that several nations in the Indies killed all their old people and their sick, to feed on their flesh: he adds, that persons in health were sometimes accused of being sick, to afford a pretence for devouring them. According to Sextus Empiricus, the first laws that were made, were for the prevention of this barbarous practice, which the Greek writers represent as universal before the time of Orpheus.

Of the practice of anthropophagy in later times, we have the testimonies of all the Romish missionaries who have visited the internal parts of Africa, and even some parts of Asia. Herrera speaks of great markets in China, furnished wholly with human flesh, for the better sort of people. Marcus Paulus speaks of the like in his time, in the kingdom of Concha towards Quinsay, and the island of Zapengit; others, of the great Java; Barbosa, of the kingdom of Siam and island of Sumatra; others, of the islands in the gulf of Bengal, of the country of the Samogitians, &c.

The philosophers Diogenes, Chrypsippus, and Zeno, followed by the whole sect of Stoics, affirmed, that there was nothing unnatural in the eating of human flesh; and that it was very reasonable to use dead bodies for food, rather than to give them a prey to worms and putrefaction. In order to make the trial, however, whether there was any real repugnancy in nature to the feeding of an animal with the flesh of its own species, Leonardus Floroventius fed a hog with hog's flesh, and a dog with dog's flesh; upon which he found the bristles of the hog to fall off, and the dog to become full of ulcers.

When America was discovered, this practice was found to be almost universal, inasmuch that several authors have supposed it to be occasioned through a want of other food, or through the indolence of the people to seek for it; though others ascribe its origin to a spirit of revenge.

It appears pretty certain from Dr Hawkesworth's account of the Voyages to the South Seas, that the inhabitants of the island of New Zealand, a country unfurnished with the necessaries of life, eat the bodies of their enemies. It appears also to be very probable, that both the wars and anthropophagy of these savages take their rise and owe their continuance to irresistible necessity, and the dreadful alternative of destroying each other by violence, or of perishing by hunger. See vol. iii. p. 447, et seq. and vol. ii. p. 380, &c.

Mr Marsden also informs us, that this horrible custom is practised by the *Battas*, a people in the island of Sumatra. "They do not eat human flesh (says he) as a means of satisfying the cravings of nature, owing to a deficiency of other food; nor is it sought after as a gluttonous delicacy, as it would seem among the *New Zealanders*. The *Battas* eat it as a species of ceremony; as a mode of showing their detestation of crimes, by an ignominious punishment; and as a horrid indication of revenge and insult to their unfortunate enemies. The objects of this barbarous repast are the prisoners taken in war, and offenders convicted and condemned for capital crimes. Persons of the former

Anthropophagi.



Anthropo-  
phagi,  
Anthropo-  
phagia.

former description may be ransomed or exchanged, for which they often wait a considerable time; and the latter suffer only when their friends cannot redeem them by the customary fine of twenty beechings, or eighty dollars. These are tried by the people of the tribe where the fact was committed, but cannot be executed till their own particular raja or chief has been acquainted with the sentence; who, when he acknowledges the justice of the intended punishment, sends a cloth to cover the delinquent's head, together with a large dish of salt and lemons. The unhappy object, whether prisoner of war or malefactor, is then tied to a stake: the people assembled throw their lances at him from a certain distance; and when mortally wounded, they run up to him, as if in a transport of passion; cut pieces from the body with their knives; dip them in the dish of salt and lemon juice; slightly broil them over a fire prepared for the purpose; and swallow the morsels with a degree of savage enthusiasm. Sometimes (I presume according to the degree of their animosity and repentment) the whole is devoured; and instances have been known, where, with barbarity still aggravated, they tear the flesh from the carcass with their mouths. To such a depth of depravity may man be plunged, when neither religion nor philosophy enlighten his steps! All that can be said in extenuation of the horror of this diabolical ceremony is, that no view appears to be entertained of torturing the sufferers; of increasing or lengthening out the pangs of death; the whole fury is directed against the corpse, warm indeed with the remains of life, but past the sensation of pain. I have found a difference of opinion in regard to their eating the bodies of their enemies slain in battle. Some persons long resident there, and acquainted with their proceedings, assert that it is not customary; but as one or two particular instances have been given by other people, it is just to conclude, that it sometimes takes place, though not generally. It was supposed to be with this intent, that Raja Neabin maintained a long conflict for the body of Mr Nairne, a most respectable gentleman and valuable servant of the India Company, who fell in an attack upon the camp of that chief, in the year 1775.

It may be said, that whether the dead body of an enemy be eaten or buried, is a matter perfectly indifferent. But whatever the practice of eating human flesh may be in itself, it certainly is relatively, and in its consequences, most pernicious. It manifestly tends to eradicate a principle, which is the chief security of human life, and more frequently restrains the hand of the murderer, than the sense of duty or the dread of punishment. Even if this horrid practice originates from hunger, still it must be perpetuated from revenge. Death must lose much of its horror among those who are accustomed to eat the dead; and where there is little horror at the sight of death, there must be less repugnance to murder. See some further observations on this subject, equally just and ingenious, by Dr Hawkesworth, *ut supra*.

ANTHROPOPHAGIA, the act or habit of eating human flesh. This is pretended by some to be the effect of a disease, which leads people affected with it to eat every thing alike. Some choose only to consider it as a species of PICA. The annals of Milan furnish an extraordinary instance of anthropophagy. A

Milanese woman named Elizabeth, from a depraved appetite, like what women with child, and those whose menses are obstructed, frequently experience, had an invincible inclination to human flesh, of which she made provision by enticing children into her house, where she killed and salted them; a discovery of which having been made, she was broken on the wheel and burnt in 1519.

ANTHROPOSCOPIA, from *ανθρωπος*, and *σκοπεω*, I consider, the art of judging or discovering a man's character, disposition, passions, and inclinations, from the lineaments of his body. In which sense, anthroposcopia seems of somewhat greater extent than physiognomy or metoposcopy. Otto has published an *Anthroposcopia, sive judicium hominis de homine ex lineamentis externis*.

ANTHROPOTHYSIA, the inhuman practice of offering human sacrifices. See SACRIFICE.

ANTHUS, in *Ornithology*, a synonyme of a species of *loxia*. See LOXIA, ORNITHOLOGY *Index*.

ANTHYLLIS, KIDNEY-VETCH. See BOTANY *Index*.

ANTHYPOPHORA, in *Rhetoric*, a figure of speech; being the counterpart of an hypophora. See HYPOPHORA.

ANTI, a Greek preposition, which enters into the composition of several words, both Latin, French, and English, in different senses. Sometimes it signifies *before*, as an anti-chamber; and sometimes *opposite* or *contrary*, as in the names of these medicines, anti-scurbutic, anti-venereal.

ANTI, in matters of *Literature*, is a title given to divers pieces written by way of answer to others, whose names are usually annexed to the anti. See the *Anti* of M. Baillet; and the *Anti-Baillet* of M. Menage: there are also *Anti-Menagiani*, &c. Cæsar the dictator wrote two books by way of answer to what had been objected to him by Cato, which he called *Anti-Catonæ*; these are mentioned by Juvenal, Cicero, &c. Vives assures us, he had seen Cæsar's *Anti-Catonæ* in an ancient library.

ANTIBACCHIUS, in *Ancient Poetry*, a foot consisting of three syllables, the two first long, and the last one short; such is the word *ambirè*.

ANTIBES, a sea-port town of Provence in France, with a strong castle. Its territory produces excellent fruit; and the town stands opposite to Nice, in the Mediterranean. E. Long. 7. 9. N. Lat. 43. 50.

ANTICHAMBER, an outer chamber for strangers to wait in, till the person to be spoken with is at leisure.

ANTICHORUS, in *Botany*. See BOTANY *Index*.  
ANTICHRIST, among *Ecclesiastical Writers*, denotes a great adversary of Christianity, who is to appear upon the earth towards the end of the world.

We have demonstrations, disputations, and proofs, in great order and number, both that the pope is, and that he is not, Antichrist.

F. Calmet is very large in describing the father and mother of Antichrist, his tribe and pedigree, his wars and conquests, his achievements against Gog, Magog, &c.

Some place his capital at Constantinople, others at Jerusalem, others at Moscow, and some few at London; but the generality at Rome, though these last are divided.

Anthropo-  
scopia  
||  
Antichrist.



**Antichrist.** vided. Grotius and some others suppose Rome Pagan to have been the seat of Antichrist: most of the Lutheran and reformed doctors contend earnestly for Rome Christian under the papal hierarchy. In fact, the point having been maturely debated at the council of Gap, held in 1603, a resolution was taken thereupon, to insert an article in the Confession of Faith, whereby the pope is formally declared to be Antichrist.—Pope Clement VIII. was stung to the quick with this decision; and even King Henry IV. of France was not a little mortified, to be thus declared, as he said, an imp of Antichrist.

M. le Clerc holds, that the rebel Jews and their leader Simon, whose history is given by Josephus, are to be reputed as the true Antichrist. Lightfoot and Vanderhart rather apply this character to the Jewish Sanhedrim. Hippolitus and others held that the devil himself was the true Antichrist; that he was to be incarnate, and make his appearance in human shape before the consummation of all things. Others among the ancients held that Antichrist was to be born of a virgin by some prolific power imparted to her by the devil. A modern writer\* of the female sex, whom many hold for a saint, has improved on this sentiment; maintaining that Antichrist is to be begotten by the devil on the body of a witch by means of the semen of a man caught in the commission of a certain crime, and conveyed, &c.

\* Bayle's Dictionary, voce *Bou-rignon*.

Hannius and some others, to secure Antichrist to the pope (notwithstanding that this latter seemed excluded by not being of the tribe of Dan), have broke in upon the unity of Antichrist, and assert that there is to be both an eastern and a western Antichrist.

Father Malvenda, a Jesuit, hath published a large work entitled *Antichristo*, in which this subject is amply discussed. It consists of thirteen books. In the first he relates all the opinions of the fathers with regard to Antichrist. In the second, he speaks of the times when he shall appear; and shows, that all the fathers who supposed Antichrist to be near at hand, judged the world was near its period. In the third, he discourses of his origin and nation; and shows that he is to be a Jew, of the tribe of Dan: this he founds on the authority of the fathers; on the passage in Genesis xlix. 17. *Dan shall be a serpent by the way, &c.*; on that of Jeremiah viii. 16. where it is said, *The armies of Dan shall devour the earth*; and on Rev. vii. where St John, enumerating all the tribes of Israel, makes no mention of that of Dan. In the fourth and fifth books he treats of the signs of Antichrist. In the sixth, of his reign and wars. In the seventh, of his vices. In the eighth, of his doctrine and miracles. In the ninth, of his persecutions: and in the rest, of the coming of Enoch and Elias, the conversion of the Jews, the reign of Jesus Christ, and the death of Antichrist, after he has reigned three years and a half. See also *Lowman on the Revelation*.

How endless are conjectures? Some of the Jews, we are told, actually took Cromwell for the Christ; while some others have laboured to prove him Antichrist himself. Pfaffius assures us he saw a folio book in the Bodleian library, written on purpose to demonstrate this latter position.

Upon the whole, the Antichrist mentioned by the

VOL. II. Part II.

apostle John, 1 Ep. ii. 18. and more particularly described in the book of Revelation, seems evidently to be the same with the *Man of Sin*, &c. characterized by St Paul in his Second Epistle to the Thessalonians, ch. ii. And the entire description literally applies to the excesses of papal power. Had the right of private judgment, says an excellent writer, been always adopted and maintained, Antichrist could never have been; and when the sacred right comes to be universally asserted, and men follow the voice of their own reason and consciences, Antichrist can be no more.

**ANTICHRISTIANISM**, a state or quality in persons or principles, which denominates them antichristian, or opposite to the kingdom of Christ.

M. Jurieu takes the idea of the unity of the church to have been the source of *Antichristianism*. Had not mankind been infatuated with this, they would never have stood in such awe of the anathemas of Rome. It is on this the popes erected their monarchical power.

**ANTICHRISTIANS**, properly denote the followers or worshippers of Antichrist.

**ANTICHRISTIANS** are more particularly understood of those who set up or believe a false Christ or Messiah.

**ANTICHTHONES**, in *Ancient Geography*, an appellation given to the inhabitants of opposite hemispheres.

**ANTICOR**, or **ANTICOEUR**, among *Farriers*, an inflammation in a horse's throat, being the same with the quinsy in mankind. See **FARRIERY**.

**ANTICOSTE**, a barren island lying in the mouth of the river St Lawrence, in North America. W. Long. 64. 16. N. Lat. from 49. to 53.

**ANTICYRA**, in *Ancient Geography*, a town in Phocis, on the Corinthian bay, opposite to Cirrha, lying to the west on the same bay. The Phocceans seizing the temple of Apollo at Delphi, a war, called the *sacred*, commenced, and lasted ten years; when Philip, father of Alexander the Great, avenged the god by destroying many of the cities of the pillagers. Anticyra was one of the number. It was again taken and subverted by Attilius a Roman general in the war with the Macedonians. It afterwards became famous for its hellebore. That drug was the root of a plant, the chief produce of the rocky mountains above the city, and of two kinds; the black, which had a purgative quality; and the white, which was an emetic. Sick persons resorted to Anticyra to take the medicine, which was prepared there by a peculiar and very excellent recipe: Hence the adage, *Naviget Anticyram*, (Horace). By the port in the second century was a temple of Neptune, not large, built with selected stones, and the inside white-washed: the statue of brass. The agora or market-place was adorned with images of the same metal; and above it was a well with a spring, sheltered from the sun by a roof supported by columns. A little higher was a monument formed with such stones as occurred, and designed, it was said, for the sons of Iphitus. One of these, Schedius, was killed by Hector, while fighting for the body of Patroclus, but his bones were transported to Anticyra; where his brother died after his return from Troy. About two stadia or a quarter of a mile distant was a high rock, a portion of the mountain, on which a temple of Diana stood, the image bigger than a large woman, and made

Antichristianism  
||  
Anticyra.



Antidesma by Praxiteles. The walls and other edifices at Anticyra were probably erected, like the temple of Neptune, with stones or pebbles. The site is now called *Asprospitia*, or *The White Houses*; and some traces of the buildings from which it was so named remain. The port is landlocked, and frequented by vessels for corn. Some paces up from the sea is a fountain.

Antigonea

ANTIDESMA, CHINESE LAUREL. See BOTANY Index.

ANTIDICOMARIANITES, ancient heretics who pretended that the Holy Virgin did not preserve a perpetual virginity, but that she had several children by Joseph after our Saviour's birth. Their opinion was grounded on some expressions of our Saviour, wherein he mentions his brothers and his sisters; and of St Matthew, where he says, that Joseph knew not Mary till she had brought forth her first born son. The Antidicomarianites were the disciples of Helvidius and Jovinian, who appeared in Rome toward the close of the fourth century.

ANTIDORON, in *Ecclesiastical Writers*, a name given by the Greeks to the consecrated bread, out of which the middle part, marked with the cross, wherein the consecration resides, being taken away by the priest, the remainder is distributed after mass to the poor. On the sides of the antidoron are impressed the words *Jesus Christus vicit*. The word is formed from *δορον*, *donum*, "a gift," as being given away *loco muneris*, or in charity. The antidoron is also called *panis præsantificatus*. Some suppose the antidoron to be distributed in lieu of the sacrament, to such as were prevented from attending in person at the celebration; and thence derive the origin of the word, the eucharist being denominated *doron*, "gift," by way of eminence.

ANTIDOSIS, in *Antiquity*, denotes an exchange of estates, practised by the Greeks on certain occasions with peculiar ceremonies, and first instituted by Solon.

When a person was nominated to an office, the expense of which he was not able to support, he had recourse to the antidosis: that is, he was to seek some other citizen of better substance than himself, who was free from this, and other offices; in which case the former was excused. In case the person thus substituted denied himself to be the richest, they were to exchange estates, after this manner; the doors of their houses were close shut up and sealed, that nothing might be conveyed away; then both took an oath to make a faithful discovery of all their effects, except what lay in the silver mines, which by the laws was excused from all imposts; accordingly, within three days, a full discovery and exchange of estates was made.

ANTIDOTE, among *Physicians*, a remedy taken to prevent, or to cure, the effects of poison, &c.

ANTIEN. See ANCIENT.

ANTIGONEA, or ANTIGONIA, in *Ancient Geography*, a town of Bithynia, so called from Antigonus, the son of Philip, and afterwards called *Nicaea* (Strabo, Stephanus). Another of Epirus, to the north of the Montes Ceraunii, opposite to the city of Oricum (Polybius, Ptolemy). A third of Arcadia, namely *Maniinea*, so called in honour of King Antigonus, (Plutarch, Pausanias.) A fourth in Macedonia, in the territory of Mygdonia (Pliny, Ptolemy). A fifth in the territory of Chalcidice, in Macedonia, on the east

side of the Sinus Thermaicus (Livy). A sixth of Syria, built by Antigonus, not far from Antioch, on the Orontes (Stephanus); but soon after destroyed by Seleucus, who removed the inhabitants to Seleucia, a town built by him (Diodorus Siculus). A seventh of Troas, called Alexandria in Pliny's time.

ANTIGONUS I. one of the captains of Alexander the Great, was the son of Philip a Macedonian nobleman. After Alexander's death, a division of the provinces taking place, Pamphylia, Lycia, and Phrygia Major fell to his share. But Perdiccas, well acquainted with his ambitious spirit, and great abilities, determined to divest him of his government, and laid plans for his life, by bringing various accusations against him. Antigonus, aware of the danger, retired with his son Demetrius into Greece, where he obtained the favour and protection of Antipater; and in a short time Perdiccas dying, a new division taking place, he was invested not only with the government of the former provinces, but also with that of Lycæonia. He was likewise entrusted with the command of the Macedonian household troops, and upon Eumenes being declared a public enemy, he received orders to prosecute the war against him with the utmost vigour. On the commencement of this war, Eumenes suffered a total overthrow, and was obliged to retire with only 600 brave followers to a castle situated on an inaccessible rock, where he might rest in safety from all the assaults of Antigonus. In the interval, his friends assembling a new army for his relief, were routed by Antigonus, who now began to exhibit the great projects of his ambition. Polyperchon succeeding to the tutorship of the young king of Macedon after Antipater's death, Antigonus resolved to set himself up as lord of all Asia. On account of the great power of Eumenes, he greatly desired to gain him over to his interest, but that faithful commander effecting his escape from the fortress where he was closely blockaded, raised an army, and was appointed the royal general in Asia. The governors of Upper Asia cooperating with him, he succeeded in several engagements against Antigonus, but was at last delivered up to him through treachery, and put to death. Upon this, the governors of Upper Asia yielded to Antigonus. Those whom he suspected, he either sacrificed to his resentment or displaced them from their offices. Then seizing upon all the treasures at Susa, he directed his march towards Babylon, of which city Seleucus was governor. Seleucus fled to Ptolemy, and entered into a league with him, together with Lyfimachus and Cassander, with the intention of giving a check to the exorbitant power of Antigonus, who, notwithstanding this, made a successful attempt upon the provinces of Syria and Phenicia. Yet these provinces were soon after recovered by Ptolemy, who defeated his son Demetrius, while he himself was employed in repelling Cassander, who had made rapid progress in Lesser Asia. They were again taken by Antigonus, and he being flushed with his success, planned an expedition against the Nabathæan Arabs, dwelling in the deserts adjacent to Judea; but on the first enterprise against the town of Petra, his general Athenæus, with almost all his troops, was cut to pieces by the Arabs. Antigonus then sent his son against them, who returned after forcing them to reasonable terms. Demetrius then



*Antigonus.* then expelled Seleucus from Babylon, and success attending his arms wherever he went, the confederates were obliged to make a treaty with Antigonus, in which it was stipulated, that he should remain in possession of all Asia, but that the Greek cities should continue in possession of their liberty. This agreement was soon violated, under the pretence that garrisons had been placed in some of these cities by Antigonus. At first Ptolemy made a successful descent in Lesser Asia and on several of the islands of the Archipelago; but he was at length defeated by the successful arms of Demetrius in a sea-fight, who also took the island of Cyprus, with many prisoners. On this victory Antigonus was so elated that he assumed the title of king, and bestowed the same upon his son; and from that time, B. C. 306, his reign in Asia, and that of Ptolemy in Egypt, and of the other captains of Alexander in their respective governments, properly commence.

Irritated at the hostile conduct of Ptolemy, Antigonus prepared a numerous army and a formidable fleet, and having taken the command of the army, he gave the command of the fleet to Demetrius, and hastened to attack him in his own dominions. After enduring the severest hardships, they met in the vicinity of Mount Cassius; but Ptolemy acted with such valour and address that Demetrius could gain no advantage over him; and after several fruitless attempts, he abandoned the undertaking. He next attempted the reduction of Rhodes, but meeting with obstinate resistance, he was obliged to make a treaty upon the best terms that he could, having been called to join Antigonus against Cassander, who at this time had formed a confederacy with Seleucus and Lyfimachus. When Demetrius united his forces with those of Antigonus, they advanced to Phrygia, and having met the enemy at Ipsus, a decisive battle was fought, in which Antigonus fell, in the 84th year of his age, B. C. 301.

Ardent in his passions, Antigonus frequently used improper means for their gratification; but as a soldier he was sagacious, active, brave, and fortunate. An insatiable ambition, however, the general passion of great men, proved a strong stimulus to all his actions; but with these blemishes better qualities were blended in his character. The violence and temerity of youth were tempered by the clemency and moderation of advanced life, and he endeavoured to conciliate the affections of those whom force had subjected to his power. In matters of private concern he was strictly just; for when his brother wished him to listen to a cause in private where he was concerned, he exclaimed, "No, my dear brother, I will hear it in the open court of justice, because I mean to do justice." When flattered with the title of god, he replied, "My chamberlain well knows the contrary;" and similar philosophical sentiments would frequently drop from his lips. He apologized for the rigour of his taxes by saying, "Alexander reaped Asia, but I only glean it." He shone with peculiar lustre in domestic retirement. Notwithstanding the strong ambition of his son Demetrius, he continued in perfect harmony both with him and all his family. The son had a full share of the authority of the father; and one day saluting his son upon his return from hunting in the presence of some ambassadors, he desired them to tell their masters upon what terms he lived with his son. (*Gen. Biog.*)

*ANTIGONUS GONATUS*, son of Demetrius Poliorcetes, was the grandson of the former Antigonus. His character was eminently distinguished by humanity and mildness of disposition. When he besieged Thebes under the command of his father, he strongly remonstrated against the loss of so many lives for such an insignificant object. Filial affection was so powerful in his mind, that when his father was taken prisoner by Seleucus, he generously offered himself in his stead, and being rejected, he wore deep mourning, and refrained from all festivals and amusements during his father's imprisonment. Informed of his death, all the floods of sorrow burst from his tender heart, and sailing with a fleet to meet his ashes, he received them with all the demonstrations of filial sensibility and dutiful respect. By the death of his father he became master of all the European dominions of Demetrius, together with the kingdom of Macedon and various other cities in Greece. The Gauls invading his country, he defeated and expelled them, but was soon after routed by Pyrrhus king of Epirus. Some time after, however, Pyrrhus was slain at Argos, and when his head was brought him by his son, he expressed the highest displeasure, and throwing his robe over it, he gave orders to search for his body, and to inter the same with all funeral honours. With singular kindness, also, he treated Helenus, the son of that unfortunate king, who fell into his hands by the fortune of war.

In the evening of his reign, he so cultivated the arts of peace, and so conciliated the minds of his subjects, that he secured their affections both to himself and his descendants. The taking of the citadel of Corinth by intrigue was the meanest action of his reign, but he improved that event in maintaining the freedom of the small states of Greece, and in increasing his own dominions. The Achæans, and Aratus, their famous chief, vigorously opposed his measures, and at length recovered Corinth; but Antigonus was so inclined to peace, that notwithstanding this event, he pursued his wonted plan, and left his kingdom in peace about the 80th year of his life, and the 34th of his reign, B. C. 243; and Demetrius II. his son, next ascended the throne. (*Gen. Biog.*)

*ANTIGRAPHUS*, in *Antiquity*, an officer of Athens, who kept a counterpart of the apodecti, or chief treasurer's accounts, to prevent mistakes, and keep them from being falsified.

*ANTIGRAPHUS* is also used, in middle-age writers, for a secretary or chancellor. He is thus called, according to the old glossarists, on account of his writing answers to the letters sent to his master. The antigraphus is sometimes also called *archigraphus*; and his dignity *antigraphia*, or *archigraphia*.

*ANTIGRAPHUS* is also used in Isidorus for one of the notes of sentences which is placed with a dote to denote a diversity of sense in translations.

*ANTIGRAPHUS* is also applied in ecclesiastical writers to an abbreviator of the papal letters. In which sense the word is used by Pope Gregory the Great in his register. Of late days the office of antigraphus consists in making minutes of bulls from the petitions agreed to by his holiness, and renewing the bulls after engrossing.

*ANTIGUA*, one of the Antilles or Caribbee islands, situated 20 leagues east of St Christopher's, in



Antigua  
||  
Antilibanus.

W. Long. 62. 5. and N. Lat. 17. 30. It is about 50 miles in circumference, and is reckoned the largest of all the British leeward islands.

This island having no rivers, and but few springs, or such as are brackish, the inhabitants are obliged to preserve the rain water in cisterns. The air here is not so wholesome as in the neighbouring islands, and it is more subject to hurricanes; but it has excellent harbours, particularly English Harbour, which is capable of receiving the largest man of war in the navy. Here is also a dock yard, supplied with all stores and conveniences for repairing and careening ships. The principal trade, however, is carried on in the harbour of St John's, the capital, situated in the north-west part of the island, and which has water sufficiently deep for merchant vessels. The town of St John's was once in a very flourishing condition, as may be judged by the loss sustained at the late fire, which was computed at the amazing sum of 400,000l.

This island was first attempted to be settled by Sir Thomas Warner, about the same time with St Christopher's and Nevis: but no establishment then took place. It was afterwards granted by Charles II. to Lord Willoughby, then governor of Barbadoes, who settled a colony upon it in the space of a few years. In a short time, but by what means is not evident, it became again the public property. It raises at present about 16,000 hogstheads of sugar, which was at first of a very bad quality, unfit for the English market; but the planters have greatly improved their staple since, and it is now as good as in any of the other islands. It has continued unmolested in all the late wars with France. The number of white inhabitants is reckoned about 10,000. It is divided into five parishes; that of St John's Town, which is reckoned the capital of the north-west part, and consists of above 200 houses; those of Falmouth, Porham, and Bridge Town, on the south side; and St Peter's, which is no town, but lies almost in the middle of the island.

ANTIGUGLER, is a crooked tube of metal, so bent as easily to be introduced into the necks of bottles, and used in decanting liquors, without disturbing them. For this purpose the bottle should be a little inclined, and about half a spoonful of the liquor poured out, so as to admit an equal quantity of air; let one end of the bent tube be stopped with the finger, whilst the other is thrust into the body of the liquor near to the bubble of air already admitted. When the finger is taken off, the bottle will have vent, and the liquor will run out steadily and undisturbed.

ANTIHECTICS, in *Pharmacy*, medicines good in hysterical disorders.

ANTIHECTICUM POTERII, the name of a medicine formerly much celebrated, but now laid aside in common practice.

ANTILIBANUS, in *Ancient Geography*, a mountain of Cœlefyria, which bounds it on the south, running parallel with Libanus: they both begin a little above the sea, Libanus near Tripolis, Antilibanus at Sidon: and both terminate near the mountains of Arabia, which run to the north of Damascus, and the mountains of Tracoonitis, and there end in other mountains, (Strabo). The Scripture, making no distinction between Libanus and Antilibanus, calls them by the common name *Lebanon*.

ANTILLES, the French name for the CARIBBEE islands.

ANTILOGARITHM, the complement of the logarithm of a sine, tangent, or secant; or the difference of that logarithm from the logarithm of 90 degrees.

ANTILOGY, in matters of literature, an inconsistency between two or more passages of the same book.

ANTILOPE. See CAPRA.

ANTIMENSIVM, a kind of consecrated table-cloth, occasionally used in the Greek church, in places where there is no proper altar. F. Goar observes, that in regard the Greeks had but few consecrated churches, and that consecrated altars are not things easy to be removed, that church has, for many ages, made use of certain consecrated stuffs or linens, called *antimensia*, to serve the purposes thereof.

ANTIMENSIVM, in the Greek church, answers to the *altare portabile*, or portable altar in the Latin church. They are both only of late invention, though Habertus would have them as old as St Basil. But Durant and Bona do not pretend to find them in any author before the time of Bede and Charlemagne.

ANTIMENSIA is also applied to other tables, used in offices of religion, besides those whereon the eucharist is administered: such, e. g. are those whereon the host is exposed, &c. The origin of the antimensia is described by Meursius: when the bishop had consecrated a church, the cloth which had been spread on the ground and over the communion table, was torn in pieces, and distributed among the priests, who carried each a fragment away, to serve to cover the tables in their churches and chapels. Not that it was necessary that such cloths should be laid on all tables; but only on those which either were not consecrated, or at least whose consecration was doubted of.

ANTIMERIA, in *Grammar*, a figure whereby one part of speech is used for another: e. g. *velle suam cuique est*, for *voluntas sua cuique est*; also, *populus latè rex*, for *populus latè regnans*.

ANTIMERIA, in a more restrained sense, is a figure where the noun is repeated instead of the pronoun. The antimeria is frequent in the Hebrew, and is sometimes retained in our version of the Old Testament accordingly: e. g. *Hear my voice, ye wives of Lamech*, for *my wives*, Gen. iv. 23.

ANTIMETABOLE, in *Rhetoric*, a figure which sets two things in opposition to each other. The word is Greek, compounded of *ἀντι* against, and *μεταβολη* from *μεταβαλλω*, I shift or transfer, i. e. shifting, or setting two things over-against each other. This figure is twice exemplified in an apophthegm of Musonius; which, on account of its excellence, is called *aureum monitum*, the golden maxim or precept.

Ἀντί πρᾶξις καλὸν μετὰ πόνου, ὁμοῦ πόνου οἰχεται, τὸ δὲ καλὸν μὲν.

Ἀντί ποιησις ἀσχηρὸν μετὰ ἡδονῆς, τὸ μὲν ἡδὺ οἰχεται, τὸ δὲ ἀσχηρὸν μὲν.

In English thus:

“Allowing the performance of an honourable action to be attended with labour; the labour is soon over, but the honour immortal: whereas, should even pleasure wait on the commission of what is dishonourable, the pleasure is soon gone, but the dishonour eternal.”

ANTIMETATHESIS,

Antilles  
||  
Antimeta-  
bole.



Antimetathesis  
||  
Antimony.

ANTIMETATHESIS, in *Rhetoric*, is the inversion of the parts or members of an antithesis. Such is that of Cicero in *Verrem*, lib. iv. cap. 52. "Compare this peace with that war; the arrival of this governor with the victory of that general; his profligate troops with the invincible army of the other; the luxury of the former with the temperance of the latter: you will say, that Syracuse was founded by him who took it; and taken by him, who held it when founded."

ANTIMONARCHICAL, an appellation given to whatever opposes monarchical government.

ANTIMONIALS, in *Medicine*, preparations of antimony. See PHARMACY.

ANTIMONY, a blackish mineral substance, staining the hands, full of long, shining, needle-like striae, hard, brittle, and considerably heavy. It is found in different parts of Europe, as Bohemia, Saxony, Transylvania, Hungary, France, and England; commonly in mines by itself, intermixed with earth and stoney matters. Sometimes it is blended with the richer ores of silver, and renders the extraction of that metal difficult by volatilizing a part of the silver; or, in the language of the miners, *robbing the ore*. See METALLURGY, for the different operations.

Antimony is the *sibium* of the ancients; by the Greeks called *σινιμ*. The reason of its modern denomination, *antimony*, is usually referred to Basil Valentine a German monk, who, as the tradition relates, having thrown some of it to the hogs, observed, that, after purging them violently, they immediately grew fat upon it. This made him think, that by giving his fellow monks a like dose, they would be the better for it. The experiment, however, succeeded so ill, that they all died of it; and the medicine thenceforward was called *antimony*, q. d. *anti-monk*.

*Uses.* Antimony at first was of service only in the composition of paint. Scripture describes it to us as a sort of paint, with which the women blackened their eyebrows. Jezebel, understanding that Jehu was to enter Samaria, painted her eyes with antimony; or, according to the Hebrew, "put her eyes in antimony." As large black eyes were thought the finest, they of both sexes, who were careful of their beauty, rubbed their eyes, eyelids, and round the eyes, with a needle dipped in a box of paint made of antimony, with a design of blackening them.—At this day, the women of Syria, Arabia, and Babylonia, anoint and blacken themselves about the eyes; and both men and women put black upon their eyes in the desert, to preserve them from the heat of the sun and the piercing of its rays. M. Darvieux tells us, that the Arabian women border their eyes with a black colour made of tatty, which the Arabians call *rebel*. They draw a line of this kind of blacking without the corner of their eyes, to make them appear larger. Isaiah, in his enumeration of the several ornaments belonging to the daughters of Sion, has not forgot the needles which they made use of in painting their eyes and eyelids. Nor has this practice escaped the lash of Juvenal:

*Ille supercilium madida fuligine tinctum  
Obliqua producit acu, pingitque trementes  
Attollens oculos.*

Ezekiel, discovering the irregularities of the Jewish

nation under the idea of a debauched woman, says, *Antimony*, that she bathed and perfumed herself, and that she anointed her eyes with antimony. Job shows sufficiently how much antimony was in esteem, by calling one of his daughters a vessel of antimony, or a box to put paint in, *cornu sibi*. The author of the book of Enoch says, that before the deluge the angel Azleel taught young women the art of painting themselves.

Tertullian and St Cyprian have declaimed very warmly against this custom of painting the eyes and eyebrows, which was much practised in Africa even by the men: *Inunge oculos tuos non sibi diaboli, sed collyrio Christi*, says St Cyprian. Pliny, speaking of the Roman ladies, says, that they painted their very eyes: *Tanta est decoris affectatio, ut tingantur oculi quoque*. Sardanapalus painted his eyes and eyebrows. Josephus reproaches the seditious with the same, who assumed the name of zealots, and made themselves masters of the temple of Jerusalem.

The modern uses of antimony are very numerous and important. It is a common ingredient in specula or burning concaves, serving to give the composition a finer texture. It makes a part in bell metal, and renders the found more clear. It is mingled with tin, to make it more hard, white, and sounding; and with lead, in the casting of printers letters, to render them more smooth and firm. It is also a general help in the melting of metals, and especially in casting of cannon-balls. It is likewise made use of for purifying and heightening the colour of gold. See CHEMISTRY *Index*.

For a long time this mineral was esteemed poisonous. In 1566, its use was prohibited in France by an edict of parliament; and in 1609, one Besnier was expelled the faculty for having given it. The edict was repealed in 1650; antimony having a few years before been received into the number of purgatives. In 1668, a new edict came forth, forbidding its use by any but doctors of the faculty. It is now universally allowed, that pure antimony in its crude state has no noxious quality, and that though many of its preparations are most virulently emetic and cathartic, yet, by a slight alteration or addition, they lose their virulence, and become mild in their operation.

The virtues of antimony in the diseases of animals are greatly extolled. Pigs that have the measles are at all times recovered by it, which proves it a great purifier of the blood. Horses who have running heels that cannot be cured by the common methods used by the farriers, will generally be cured by this medicine in a little time. The manner of using it is this: Mix one drachm with every feeding of oats which the horse has in a morning. It is best put together in one place, buried under a few oats; and the horse's head being withheld a little, and then let go just against that place, he will take it all in at a mouthful. Some horses do not dislike it: others obstinately refuse it, but to these it may be easily given in balls. The virtues of this drug in fattening cattle have been thought imaginary, but experiment proves it to be a real truth. A horse that is lean and scabby, and not to be fatted by any other means, will become fat on taking a dose of antimony every morning for two months together. A boar fed for brawn, and having an ounce of anti-

mony



Antioch  
||  
Antioch.

mony given him every morning, will become fat a fortnight sooner than others put into the sty at the same time, and fed in the same manner, but without the antimony.

ANTINOE. See ENFINE.

ANTINOEIA, in *Antiquity*, annual sacrifices, and quinquennial games, in memory of Antinous the Bithynian. They were instituted at the command of Adrian, the Roman emperor, at Mantinea, in Arcadia, where Antinous was honoured with a temple and divine worship.

ANTINOMIANS, in *Ecclesiastical History*, certain heretics who maintain the law of no use or obligation under the gospel-dispensation, or who hold doctrines that clearly supersede the necessity of good works and a virtuous life. The Antinomians took their origin from John Agricola about the year 1538; who taught that the law is no ways necessary under the gospel: that good works do not promote our salvation, nor ill ones hinder it; that repentance is not to be preached from the decalogue, but only from the gospel.

This sect sprung up in England during the protectorate of Oliver Cromwell, and extended their system of libertinism much farther than Agricola the disciple of Luther. Some of their teachers expressly maintained, that as the elect cannot fall from grace, nor forfeit the Divine favour, the wicked actions they commit are not really sinful, nor are to be considered as instances of their violation of the divine law; and that consequently they have no occasion either to confess their sins, or to break them off by repentance. According to them, it is one of the essential and distinctive characters of the elect, that they cannot do any thing which is either displeasing to God or prohibited by the law.—Luther, Rutherford, Schlüsselburg, Sedgwick, Gataker, Witsius, Bull, Williams, &c. have written refutations; Crisp, Richardson, Saltmarsh, &c. defences, of the Antinomians; Wigandus, a comparison between ancient and modern Antinomians.

The doctrine of Agricola was in itself obscure, and perhaps represented worse than it really was by Luther, who wrote with acrimony against him, and first styled him and his followers *Antinomians*. Agricola stood on his own defence, and complained that opinions were imputed to him which he did not hold. Nicholas Amsdorf fell under the same odious name and imputation, and seems to have been treated more unfairly than even Agricola himself. It is rather hard to charge upon a man all the opinions that may be inferred from things that have hastily dropped from him, when he himself disavows such inferences.

ANTINOUS, the favourite of Adrian, was born at Bithynus in Bithynia. His beauty engaged the heart of Adrian in such a manner, that there never was a more boundless and extravagant passion than that of this emperor towards this youth. After his death, the emperor ordered divine honours to be paid him; and he also erected a city of his name. See ENFINE.

ANTIOCH, a city of Syria in Asia, situated on the river Orontes, in E. Long. 37. 5. N. Lat. 36. 20. It was built by Seleucus Nicator, founder of the Syro-Macedonian empire, who made it his capital. It stood on the above-mentioned river, about 20 miles from the place where it empties itself into the Mediterranean; being equally distant from Constantinople and Alex-

andria in Egypt, that is, about 700 miles from each. Seleucus called it *Antioch*, from his father's name, according to some; or from that of his son, according to others. He built 16 other cities bearing the same name; of which one, situated in Pisidia, is probably that where the name of *Christians* was first given to the followers of Jesus Christ. But that situated on the Orontes by far eclipsed, not only all the others of this name, but all the cities built by Seleucus. Antigonus, not long before, had founded a city in that neighbourhood, which from his own name he had called *Antigonia*, and designed it for the capital of his empire; but it was razed to the ground by Seleucus, who employed the materials in building his metropolis, and also transplanted the inhabitants thither.

The city of Antioch was afterwards known by the name of *Tetrapolis*, being divided as it were into four cities, each of them being surrounded with its proper wall, besides a common one which enclosed them all. The first of these cities was built by Seleucus Nicator, as already mentioned; the second by those who flock-ed thither on its being made the capital of the Syro-Macedonian empire; the third by Seleucus Callinicus; and the fourth by Antiochus Epiphanes.—About four or five miles distant, stood a place called *Daphne*, which was nevertheless reckoned a suburb of Antioch. Here Seleucus planted a grove, and in the middle of it built a temple which he consecrated to Apollo and Diana, making the whole an asylum. To this place the inhabitants of Antioch resorted for their pleasures and diversions; whereby it became at last so infamous, that “to live after the manner of Daphne” was used as a proverb to express the most voluptuous and dissolute way of living. Here Lucius Verus, the colleague of M. Aurelius, chose to take up his residence, instead of marching against the Parthians; while his general Cassius forbade by proclamation any of his soldiers to enter or even go near the place. In short, so remarkable was Daphne of old, that the metropolis itself was distinguished by it, and called *Antioch near Daphne*.

Though Antioch continued to be, as Pliny calls it, the queen of the East, for near 1600 years; yet scarce any city mentioned in history hath undergone such calamities, both from the attacks of its enemies, and its being naturally subject to earthquakes. The first disaster mentioned in history which befel the Antiochians happened about 145 years before Christ. Being at that time very much disaffected to the person and government of Demetrius their king, they were continually raising tumults and seditions; insomuch that he found himself at last obliged to solicit assistance from the Jews; and was furnished by Jonathan, one of the Maccabees, with 3000 men; by which reinforcement, believing himself sufficiently strong to reduce the mutineers by force, he ordered them immediately to deliver up their arms. This unexpected order caused a great uproar in the city. The inhabitants ran to arms, and invested the king's palace, to the number of 120,000, with a design to put him to death. All the Jews hastened to his relief, fell upon the rebels, killed 100,000 of them, and set fire to the city. On the destruction of the Syrian empire by the Romans, Antioch submitted to them as well as the other cities of that kingdom, and continued for a long time under their dominion. About the year 115, in the reign of the

Antiocha



Antioch. the emperor Trajan, it was almost entirely ruined by one of the most dreadful earthquakes mentioned in history. Trajan himself happened to be there at that time, being returned from an expedition against the Parthians; so that the city was then full of troops, and strangers come from all quarters either out of curiosity or upon business and embassies: the calamity was by this means felt almost in every province of the Roman empire. The earthquake was preceded by violent claps of thunder, unusual winds, and a dreadful noise under ground. The shock was so terrible, that great numbers of houses were overturned, and others tossed to and fro like a ship at sea. Those who happened to be in their houses were for the most part buried under their ruins: those who were walking in the streets or in the squares, were, by the violence of the shock, dashed against each other, and most of them either killed or dangerously wounded. This earthquake continued, with some small intermission, for many days and nights; so that vast numbers perished. The most violent shock, according to the Acts of St Ignatius, was on a Sunday, December 23. By this Trajan was much hurt, but escaped through a window. Dion Cassius pretends, that he was taken out of the window by one who exceeded the human size in tallness. The same historian adds, that Mount Lison, which stood at a small distance from the city, bowed its head and threatened to fall down upon it: that other mountains fell; that new rivers appeared, and others that had flowed before forsook their course and vanished. When the earthquake ceased, a woman was heard crying under the ruins; which being immediately removed, she was found with a living child in her arms. Search was made for others; but none was found alive, except one child which continued sucking its dead mother.

No doubt, Trajan, who was an eye-witness of this terrible calamity, would contribute largely towards the re-establishment of Antioch in its ancient splendour. Its good fortune, however, did not continue long; for in 155, it was almost entirely burnt by accidental fire; when it was again restored by Antoninus Pius. In 176 or 177, the inhabitants having sided with Cassius, the above-mentioned Roman general, who had revolted from M. Aurelius, that emperor published a severe edict against them, deprived them of all their privileges, suppressed their public assemblies, and took from them the shows and spectacles to which they were greatly addicted: but his anger being soon appeased, he restored them to their former condition, and even condescended to visit their city. In 194, having sided with Niger against Severus, the latter deprived them of all their privileges, and subjected Antioch as a mere village to Laodicea; but, however, pardoned them the next year, at the entreaties of his eldest son, then a child.

When the power of the Roman empire began to decline, Antioch became the bone of contention between them and the eastern nations; and accordingly, on the breaking out of a Persian war, it was almost always sure to suffer. In 242, it was taken and plundered by Sapor; and, though he was defeated by Gordian, it underwent the same misfortune in the time of Valerian, about 18 years after; and after the defeat and captivity of Valerian, being taken by the Persian monarch a third time, he not only plundered it, but levelled all the public buildings with the ground. The Per-

sians, however, being soon driven out, this unfortunate city continued free from any remarkable calamity till about the time of the division of the Roman empire by Constantine in 331. It was then afflicted with so grievous a famine, that a bushel of wheat was sold for 400 pieces of silver. During this grievous distress, Constantine sent to the bishop 30,000 bushels of corn; besides an incredible quantity of all kinds of provisions, to be distributed among the ecclesiastics, widows, orphans, &c. In the year 347, Constantine II. caused a harbour to be made at Seleucia, for the convenience of Antioch. This was effected at an immense expence; the mouth of the Orontes, where the port was made, being full of sands and rocks. When the emperor Julian set out on his expedition against the Persians, he made a long stay at Antioch; during which time, many of the Roman provinces were afflicted with a famine, but which raged more violently at Antioch than in other places. The ecclesiastical writers of those times say, that this famine followed Julian from place to place; and as he continued longer at Antioch than any other city, it raged more violently there than anywhere else. To remedy this evil, Julian fixed the price of corn: by which means the famine was greatly increased, the merchants conveying their corn privately to other places, so that this metropolis was reduced to a most deplorable situation. In 381, in the reign of Theodosius the Great, Antioch was again visited by a famine, accompanied by a grievous plague. The latter soon ceased: but, the famine still continuing, the bishop, Libanius, applied to Icarus, count of the East, requesting him by some means or other to relieve the poor, who had flocked from all parts to the metropolis, and were daily perishing in great numbers; but to this Icarus gave no other answer, than that they were abhorred and justly punished by the gods. This inhuman answer raised great disturbances; which, however, were terminated without bloodshed. In 387, Theodosius finding his exchequer quite drained, and being obliged to be at an extraordinary expence in celebrating the fifth year of the reign of his son Arcadius, and the tenth of his own, an extraordinary tax was laid upon all the people in the empire. Most of the cities submitted willingly to this: but the people of Antioch, complaining of it as an unreasonable oppression, crowded to the house of Flavianus, their bishop, as soon as the edict was published, to implore his protection. Being unable to find him, they returned to the forum; and would have torn the governor in pieces, had not the officers who attended him kept back with great difficulty the enraged multitude, till he made his escape. Upon this, they broke some of the emperor's statues, and dragged others through the city, uttering the most injurious and abusive expressions against him and his whole family. They were, however, dispersed by a body of archers, who, by wounding only two of the rabble, struck terror into all the rest. The governor proceeded against the offenders with the utmost cruelty; exposing some to wild beasts in the theatre, and burning others alive. He did not spare even the children, who had insulted the emperor's statues; and caused several persons to be executed, who had been only spectators of the disorder. In the mean time a report was spread, that a body of troops was at hand, with orders to plunder the

Antioch.

city.



Antioch.

city, and put all to the sword, without distinction of sex or age; upon which the citizens abandoned their dwellings in the utmost terror and confusion, retiring to the neighbouring mountains with their wives and families. As the report proved groundless, some of them returned; but the greater part dreading the cruelty of the governor, and the displeasure of the emperor, continued in their retreats. To those who returned, St Chrysofom preached some homilies, which have reached our times, and are greatly admired; and which are said by St Chrysofom himself, as well as some cotemporary writers, to have had a considerable effect in reforming the lives of this licentious and dissolute people. On hearing the news of this tumult, Theodosius was so much enraged, that he commanded the city to be destroyed, and its inhabitants to be put to the sword without distinction; but this order was revoked before it could be put into execution, and he contented himself with a punishment similar to that inflicted by Severus above mentioned. He appointed judges to punish the offenders; who proceeded with such severity, and condemned such numbers, that the city was thrown into the utmost consternation. On this occasion, St Chrysofom and the hermits, who were very numerous in the neighbourhood, exerted all their eloquence in behalf of the unhappy people, and obtained a respite for those who had been condemned. They next proceeded to draw up a memorial to the emperor in favour of the citizens in general; and being joined by Flavianus, at last obtained a general pardon, and had the city restored to all its former privileges.

In the year 458, Antioch was almost entirely ruined by an earthquake, which happened on the 14th of September; scarce a single house being left standing in the most beautiful quarter of the city. The like misfortune it experienced in 525, during the reign of the emperor Justin; and in 15 years after, being taken by Cosroes king of Persia, that insulting and haughty monarch gave it up to his soldiers, who put all they met to the sword. The king himself seized on all the gold and silver vessels belonging to the great church; and caused all the valuable statues, pictures, &c. to be taken down and conveyed to Persia, while his soldiers carried off every thing else. The city being thus completely plundered, Cosroes ordered his men to set fire to it; which was accordingly done so effectually, that none of the buildings even without the walls escaped. Such of the inhabitants as escaped slaughter were carried into Persia, and sold as slaves.

Notwithstanding so many and so great calamities, the city of Antioch soon recovered its wonted splendour; but in a short time underwent its usual fate, being almost entirely destroyed by an earthquake in 587, by which 30,000 persons lost their lives. In 634, it fell into the hands of the Saracens, who kept possession of it till the year 858, when it was surprised by one Burtzas, and again annexed to the Roman empire. The Romans continued masters of it for some time, till the civil dissensions in the empire gave the Turks an opportunity of seizing upon it as well as the whole kingdom of Syria. From them it was again taken by the Crusaders in 1098. In 1262, it was again taken by Bibaris sultan of Egypt, who put a final period to its glory.

Antioch is now no more than a ruinous town, whose houses, built with mud and straw, and narrow and miry streets, exhibit every appearance of misery and wretchedness. These houses are situated on the southern bank of the Orontes, at the extremity of an old decayed bridge: they are covered to the south by a mountain; upon the slope of which is a wall, built by the Crusaders. The distance between the present town and this mountain may be about 400 yards, which space is occupied by gardens and heaps of rubbish, but presents nothing interesting.

Notwithstanding the unpolished manners of its inhabitants, Antioch was better calculated than Aleppo to be the emporium of the Europeans. By clearing the mouth of the Orontes, which is six leagues lower down, boats might have been towed up that river, though they could not have sailed up, as Pococke has asserted; its current being too rapid. The natives, who never knew the name Orontes, call it, on account of the swiftness of its stream, *El-aafi*, that is, the rebel. Its breadth, at Antioch, is about forty paces. Seven leagues above that town it passes by a lake abounding in fish, and especially in eels. A great quantity of these are salted every year, but not sufficient for the numerous fasts of the Greek Christians. It is to be remembered, we no longer hear at Antioch, either of the Grove, or Daphne, or of the voluptuous scenes of which it was the theatre.

The plain of Antioch, though the soil of it is excellent, is uncultivated, and abandoned to the Turks; but the hills on the side of the Orontes, particularly opposite Serkin, abound in plantations of figs and olives, vines, and mulberry trees, which, a thing uncommon in Turkey, are planted in quincunx, and exhibit a landscape worthy our finest provinces.

Seleucus Nicator, who founded Antioch, built also at the mouth of the Orontes, on the northern bank, a large and well fortified city, which bore his name, but of which at present not a single habitation remains; nothing is to be seen but heaps of rubbish, and works in the adjacent rock, which prove that this was once a place of very considerable importance. In the sea also may be perceived the traces of two piers, which are indications of an ancient port, now choked up. The inhabitants of the country go thither to fish, and call the name of the place *Souaidia*.

ANTIOCHETTA, a town of Turkey in Asia, in Caramania, with a bishop's see, over against the island of Cyprus. E. Long. 32. 15. N. Lat. 36. 42.

ANTIOCHIA, in *Ancient Geography*, a town of Assyria, situated between the rivers Tigris and Tornado (Pliny).—Another of Caria, on the Meander; called also *Pythopolis*, *Athymbra*, and *Nyssa*, or *Nyssa* (Stephanus): but Strabo says, that Nyssa was near Tralles.—A third of Cilicia Trachea, on Mount Cragus (Ptolemy).—A fourth, called *Epidaphnes*, the capital of Syria, distinguished from cities of the same name, either by its situation on the Orontes, by which it was divided, or by its proximity to Daphne (See ANTIOCH).—A fifth Antiochia, a town of Comagene, on the Euphrates (Pliny).—A sixth of Lydia *Tralles*, so called (Pliny).—A seventh, of Margiana (Strabo, Pliny, Ptolemy), on the river Margus, taking its name from Antiochus, son of Seleucus, who rebuilt it, and walled it round, being before called *Alexandria*, from

Antioch  
||  
Antiochia.



Antiochian from Alexander the founder, and furnished Syria; in compass seventy stadia; whither Orodes carried the Romans, after the defeat of Crassus (Pliny).—An eighth, in Mesopotamia, on the lake Calirrhoe, the old name of Edessa (Pliny).—A ninth Antiochia, on the river Mygdonius, in Mesopotamia, situated at the foot of Mount Masius, and is the same with Nisibis (Strabo, Plutarch). It was the bulwark and frontier town of the Romans against the Parthians and Persians, till given up to the Persians, by Jovinian, by an ignominious peace (Ammian, Eutropius).—A tenth Antiochia, was that situated in the north of Pisidia (Luke, Ptolemy, Strabo): is was a Roman colony, with the appellation *Cæsarea*. There is an Antiochia at Mount Taurus, mentioned by Ptolemy, but by no other author.

ANTIUCHIAN SECT or *Academy*, a name given to the fifth academy, or branch of Academies. It took the denomination from its being founded by Antiochus, a philosopher contemporary with Cicero.—The Antiochian academy succeeded the Philonian. As to point of doctrine, the philosophers of this sect appear to have restored that of the ancient academy, except that in the article of the criterion of truth. Antiochus was really a Stoic, and only nominally an Academic.

ANTIUCHIAN *Epocha*, a method of computing time from the proclamation of liberty granted the city of Antioch about the time of the battle of Pharsalia.

ANTIUCHUS, the name of several kings of SYRIA. See that article.

ANTIUCHUS of *Ascalon*, a celebrated philosopher, the disciple of Philo of Larissa, the master of Cicero, and the friend of Lucullus and Brutus. He was founder of a fifth academy: but, instead of attacking other sects, he set himself down to reconcile them together, particularly the sect of the Stoics with that of the ancient academy.

ANTIOPE, in *Fabulous History*, the wife of Licus, king of Thebes, who, being deflowered by Jupiter in the form of a satyr, brought forth Amphion and Zethus.—Another Antiope was queen of the Amazons; and, with the assistance of the Scythians, invaded the Athenians; but was vanquished by Theseus.

ANTIPÆDOBAPTISTS, (derived from *anti*, against, *παις*, *παιδος*, child, and *βαπτίζω*, baptize, whence *βαπτιστης*), is a distinguishing denomination given to those who object to the baptism of infants; because they say infants are incapable of being instructed, and of making that profession of faith which entitles them to this ordinance, and an admission into church communion. See ANABAPTISTS and BAPTISTS.

ANTIPAROS, an island in the Archipelago, opposite to Paros, from which it is separated by a strait about seven miles over. It is the *Oleiros* or *Oliaros*, mentioned by Strabo, Pliny, Virgil, Ovid, &c.; and was, according to Heraclides Ponticus as quoted by Stephanus, first peopled by a Phœnician colony from Sidon.—According to Mr Tournefort's account, it is about 16 miles in circumference, produces a little wine and cotton, with as much corn as is necessary for the maintenance of 60 or 70 families, who live together in a village at one end of the island, and are mostly Maltese and French corsairs.

This island is remarkable for a subterraneous cavern or grotto, accounted one of the greatest natural curiosities in the world. It was first discovered in the last century by one Magni an Italian traveller, who has given us the following account: "Having been informed (says he) by the natives of Paros, that in the little island of Antiparos, which lies about two miles from the former, of a gigantic statue that was to be seen at the mouth of a cavern in that place, it was resolved that we (the French consul and himself) should pay it a visit. In pursuance of this resolution, after we had landed on the island, and walked about four miles through the midst of beautiful plains and sloping woodlands, we at length came to a little hill, in the side of which yawned a most horrid cavern, that, with its gloom, at first struck us with terror, and almost repressed curiosity. Recovering the first surprize, however, we entered boldly; and had not proceeded above 20 paces, when the supposed statue of the giant presented itself to our view. We quickly perceived, that what the ignorant natives had been terrified at as a giant, was nothing more than a sparry concretion, formed by the water dropping from the roof of the cave, and by degrees hardening into a figure that their fears had formed into a monster. Incited by this extraordinary appearance, we were induced to proceed still further, in quest of new adventures in this subterranean abode. As we proceeded, new wonders offered themselves; the spars, formed into trees and shrubs, presented a kind of petrified grove; some white, some green; and all receding in due perspective. They struck us with the more amazement, as we knew them to be mere productions of Nature, who, hitherto in solitude, had, in her playful moments, dressed the scene as if for her own amusement.

"But we had as yet seen but a few of the wonders of the place, and we were introduced as yet only into the portico of this amazing temple. In one corner of this half illuminated recess, there appeared an opening of about three feet wide, which seemed to lead to a place totally dark, and that one of the natives assured us contained nothing more than a reservoir of water. Upon this we tried, by throwing down some stones, which rumbling along the sides of the descent for some time, the sound seemed at last quashed in a bed of water. In order, however, to be more certain, we sent in a Levantine mariner, who, by the promise of a good reward, with a flambeau in his hand, ventured into this narrow aperture. After continuing within it for about a quarter of an hour, he returned, carrying some beautiful pieces of white spar in his hand, which art could neither imitate nor equal. Upon being informed by him that the place was full of these beautiful incrustations, I ventured in once more with him, for about 50 paces, anxiously and cautiously descending by a steep and dangerous way. Finding, however, that we came to a precipice which led into a spacious amphitheatre, if I may so call it, still deeper than any other part, we returned; and being provided with a ladder, flambeaux, and other things, to expedite our descent, our whole company, man by man, ventured into the same opening, and, descending one after another, we at last saw ourselves all together in the most magnificent part of the cavern.

"Our candles being now all lighted up, and the whole place completely illuminated, never could the eye be presented with a more glittering or a more magnificent

Antiparos.



Antiparos. cent scene. The roof all hung with solid icicles, transparent as glass, yet solid as marble. The eye could scarce reach the lofty and noble ceiling; the sides were regularly formed with spars; and the whole presented the idea of a magnificent theatre, illuminated with an immense profusion of lights. The floor consisted of solid marble; and in several places, magnificent columns, thrones, altars, and other objects, appeared, as if nature had designed to mock the curiosities of art. Our voices, upon speaking or singing, were redoubled to an astonishing loudness; and, upon the firing of a gun, the noise and reverberations were almost deafening. In the midst of this grand amphitheatre rose a concretion of about 15 feet high, that, in some measure, resembled an altar; from which, taking the hint, we caused mas to be celebrated there. The beautiful columns that shot up round the altar, appeared like candlesticks; and many other natural objects represented the customary ornaments of this sacrament.

“Below even this spacious grotto, there seemed another cavern; down which I ventured with my former mariner, and descended about 50 paces by means of a rope. I at last arrived at a small spot of level ground, where the bottom appeared different from that of the amphitheatre, being composed of soft clay, yielding to the pressure, and in which I thrust a stick to about six feet deep. In this, however, as above, numbers of the most beautiful crystals were formed; one of which, particularly resembled a table. Upon our egress from this amazing cavern, we perceived a Greek inscription upon a rock at the mouth; but so obliterated by time, that we could not read it. It seemed to import, that one Antipater, in the time of Alexander, had come thither; but whether he penetrated into the depths of the cavern, he does not think fit to inform us.”

From this account Mr Tournefort's differs considerably. Mr Magni mentions only one descent or precipice from the entry of the cave to the grotto, or most magnificent part; Mr Tournefort says that there were many very dangerous precipices and rugged ways, through which they were obliged to pass sometimes on their back, and sometimes on their belly; but gives no particular account of his journey till he come to the grand cavern. This indeed he describes very pompously; but as by it he evidently wants to support a favourite hypothesis, namely, the vegetation of stones, perhaps the particulars are not altogether to be depended upon. He, informs us, that, at the entry into the cavern, he met with a Greek inscription almost effaced, containing a good number of proper names; and that there was a tradition among the inhabitants, that these were the names of some who had conspired against Alexander the Great, and having missed their aim, had taken refuge in this grotto.

The most particular account, however, of this famous grotto that hath hitherto been published, appeared in the British Magazine, in a letter signed *Charles Saunders*, and dated Feb. 24. 1746-7; which, as it is very particular, and seems to bear sufficient marks of authenticity, we shall here insert. “Its entrance lies in the side of a rock, about two miles from the sea-shore; and is a spacious and very large arch, formed of rough craggy rocks, overhung with brambles and a great many climbing plants, that give it a gloominess which is very awful and agreeable. Our surgeon,

myself, and four passengers, attended by six guides Antiparos. with lighted torches, entered this cavern about eight o'clock in the morning, in the middle of August last. We had not gone 20 yards in this cavity when we lost all sight of day light: but our guides going before us with lights, we entered into a low narrow kind of alley, surrounded every way with stones all glittering like diamonds by the light of our torches; the whole being covered and lined throughout with small crystals, which gave a thousand various colours by their different reflections. This alley grows lower and narrower as one goes on, till at length one can scarce get along it. At the end of this passage we were each of us presented with a rope, to tie about our middles; which when we had done, our guides led us to the brink of a most horrible precipice. The descent into this was quite steep, and the place all dark and gloomy. We could see nothing, in short, but some of our guides with torches in a miserable dark place, at a vast distance below us. The dreadful depth of this place, and the horror of the descent through a miserable darkness into it, made me look back to the lane of diamonds, if I may so call it, through which we had just passed; and I could not but think I was leaving heaven, to descend into the infernal regions. The hope of something fine at my journey's end tempted me, however, to trust myself to the rope and my guides at the top, to let myself down. After about two minutes dangling in this posture, not without much pain as well as terror, I found myself safe, however, at the bottom; and our friends all soon followed the example. When we had congratulated here with one another on our safe descent; I was inquiring where the grotto, as they called it, was. Our guides, shaking their heads, told us, we had a great way to that yet; and led us forward about 30 yards under a roof of ragged rocks, in a scene of terrible darkness, and at a vast depth from the surface of the earth, to the brink of another precipice much deeper and more terrible than the former. Two of the guides went down here with their torches first; and by their light we could see, that this passage was not so perpendicular indeed as the other, but lay in a very steep slant, with a very slippery rock for the bottom; vast pieces of rough rugged rocks jutting out in many places on the right hand, in the descent, and forcing the guides sometimes to climb over, sometimes to creep under them, and sometimes to round them; and on the left, a thousand dark caverns, like so many monstrous wells, ready, if a foot should slip, to swallow them up for ever. We stood on the edge to see these people with their lights descend before us; and were amazed and terrified to see them continue descending till they seemed at a monstrous and most frightful depth. When they were at the bottom, however, they hollaed to us; and we, trembling and quaking, began to descend after them. We had not gone 30 feet down, when we came to a place where the rock was perfectly perpendicular; and a vast cavern seemed to open its mouth to swallow us up on one side, while a wall of rugged rock threatened to tear us to pieces on the other. I was quite disheartened at this terrible prospect, and declared I would go back; but our guides assured us there was no danger; and the rest of the company resolving to see the bottom now they were come so far, I would not leave them: so on we went to a corner where there



Antiparos. there was placed an old slippery and rotten ladder, which hung down close to the rock; and down this, one after another, we at length all descended. When we had got to the bottom of this we found ourselves at the entrance of another passage, which was terrible enough indeed; but in this there was not wanting something of beauty. This was a wide and gradual descent; at the entrance of which one of our guides seated himself on his breech, and began to slide down, telling us we must do the same. We could discover, by the light of his torch, that this passage was one of the noblest vaults in the world. It is about nine feet high, seven wide, and as for its bottom a fine green glossy marble. The walls and arch of the roof of this being as smooth and even in most places as if wrought by art, and made of a fine glittering red and white granite, supported here and there with columns of a deep blood-red shining porphyry, made, with the reflection of the lights, an appearance not to be conceived. This passage is at least 40 yards long; and of so steep a descent, that one has enough to do, when seated on one's breech, not to descend too quickly. Our guides, that we kept with us, could here keep on each side of us; and, what with the prodigious grandeur and beauty of the place, our easy travelling through it, and the diversion of our now and then running over one another whether we would or not; this was much the pleafantest part of our journey. When we had entered this passage, I imagined we should at the bottom join the two guides we had first set down; but alas! when we were got there we found ourselves only at the mouth of another precipice, down which we descended by a second ladder not much better than the former. I could have admired this place also, would my terror have suffered me; but the dread of falling, kept all my thoughts employed during my descent. I could not but observe, however, as my companions were coming down after me, that the wall, if I may so call it, which the ladder hung by, was one mass of blood-red marble, covered with white sprigs of rock crystal as long as my finger, and making, with the glow of the purple from behind, one continued immense sheet of amethysts. From the foot of this ladder we slid on our bellies through another shallow vault of polished green and white marble, about 20 feet: and at the bottom of this joined our guides. Here we all got together once again, and drank some rum, to give us courage before we proceeded any farther. After this short refreshment, we proceeded by a strait, but somewhat slanting passage, of a rough, hard, and somewhat coarse stone, full of a thousand strange figures of snakes rolled round, and looking as if alive; but in reality as cold and hard as the rest of the stone, and nothing but some of the stone itself in that shape. We walked pretty easily along this descent for near 200 yards; where we saw two pillars seemingly made to support the roof from falling in; but in reality it was no such thing; for they were very brittle, and made of a fine glittering yellow marble. When we had passed these about 200 yards, we found ourselves at the brink of another very terrible precipice: but this our guides assured us was the last; and there being a very good ladder to go down by, we readily ventured. At the bottom of this steep wall, as I may call it, we found ourselves for some way upon plain even ground; but, after about 40 yards walking,

Antiparos. were presented by our guides with ropes again; which we fastened about our middles, though not to be swung down by, but only for fear of danger, as there are lakes and deep waters all the way from hence on the left hand. With this caution, however, we entered the last alley: and horrible work it was indeed to get through it. All was perfectly horrid and dismal here. The sides and roof of the passage were all of black stone; and the rocks in our way were in some places so steep, that we were forced to lie all along on our backs, and slide down; and so rough, that they cut our clothes, and bruised us miserably in passing. Over our heads, there was nothing but ragged black rocks, some of them looking as if they were every moment ready to fall in upon us; and, on our left hands, the light of our guides torches showed us continually the surfaces of dirty and miserably looking lakes of water. If I had heartily repented of my expedition often before, here I assure you I was all in a cold sweat, and fairly gave myself over for lost; heartily cursing all the travellers that had written of this place, that they had described it so as to tempt people to see it, and never told us of the horrors that lay in the way. In the midst of all these reflections, and in the very dimmest part of all the cavern, on a sudden we had lost four of our six guides. What was my terror on this sight! The place was a thousand times darker and more terrible for want of their torches; and I expected no other but every moment to follow them into some of these lakes, into which I doubted not but they were fallen. The remaining two guides said all they could indeed, to cheer us up; and told us we should see the other four again soon, and that we were near the end of our journey. I do not know what effect this might have upon the rest of my companions; but I assure you I believed no part of the speech but the last, which I expected every moment to find fulfilled in some pond or precipice. Our passage was by this time become very narrow, and we were obliged to crawl on all-fours over rugged rocks; when in an instant, and in the midst of these melancholy apprehensions, I heard a little hissing noise, and saw myself in utter, and not to be described, darkness. Our guides called indeed cheerfully to us, and told us that they had accidentally dropped their torches into a puddle of water, but we should soon come to the rest of them, and they would light them again; and told us there was no danger, and we had nothing to do but to crawl forward. I cannot say but I was amazed at the courage of these people; who were in a place where, I thought, four of them had already perished, and from whence we could none of us ever escape; and determined to lie down and die where I was. Words cannot describe the horror, or the extreme darkness of the place. One of our guides, however, perceiving that I did not advance, came up to me, and clapping his hand firmly over my eyes, dragged me a few paces forward. While I was in this strange condition, expecting every moment death in a thousand shapes, and trembling to think what the guide meant by this rough proceeding, he lifted me at once over a great stone, set me down on my feet, and took his hand from before my eyes. What words can describe at that instant my astonishment and transport! Instead of darkness and despair, all was splendour and magnificence before me: our guides all appeared about us: the place was illuminated by 50 torches,



Antiparos. torches, and the guides all welcomed me into the grotto of Antiparos. The four that were first missing, I now found had only given us the slip, to get the torches lighted up before we came; and the other two had put out their lights on purpose, to make us enter out of utter darkness into this pavilion of splendour and glory. I am now come to the proper business of this letter: which was to describe this grotto. But I must confess to you that words cannot do it. The amazing beauties of the place, the eye that sees them only can conceive. The best account I can give you, however, pray accept of.

“The people told us, the depth of this place was 48 yards, the grotto, in which we now were, is a cavern of 120 yards wide, and 113 long, and seems about 60 yards high in most places. These measures differ something from the accounts travellers in general give us; but you may depend upon them as exact, for I took them with my own hand. Imagine then with yourself, an immense arch like this, almost all over lined with fine and bright crystallized white marble, and illuminated with 50 torches; and you will then have some faint idea of the place I had the pleasure to spend three hours in. This, however, is but a faint description of its beauties. The roof, which is a fine vaulted arch, is hung all over with icicles of white shining marble, some of them ten feet long, and as thick as one’s middle at the root; and among these hang a thousand festoons of leaves and flowers, of the same substance; but so very glittering, that there is no bearing to look up at them. The sides of the arch are planted with seeming trees of the same white marble, rising in rows one above another, and often enclosing the points of the icicles. From these trees there are also hung festoons, tied as it were from one to another in vast quantities; and in some places among them there seem rivers of marble winding through them in a thousand meanders. All these things are only made, in a long course of years, from the dropping of water, but really look like trees and brooks turned to marble. The floor we trod upon was rough and uneven, with crystals of all colours growing irregularly out of it, red, blue, green, and some of a pale yellow. These were all shaped like pieces of saltpetre; but so hard, that they cut our shoes: among these, here and there, are placed icicles of the same white shining marble with those above, and seeming to have fallen down from the roof and fixed there; only the big end of these is to the floor. To all these our guides had tied torches, two or three to a pillar, and kept continually beating them to make them burn bright. You may guess what a glare of splendour and beauty must be the effect of this illumination, among such rocks and columns of marble. All round the lower part of the sides of the arch are a thousand white masses of marble, in the shape of oak trees. Mr Tournefort compares them to cauliflowers, but I should as soon compare them to toadstools. In short, they are large enough to enclose, in many places, a piece of ground big enough for a bedchamber. One of these chambers has a fair white curtain, whiter than satin, of the same marble, stretched all over the front of it. In this we all cut our names, and the date of the year, as a great many people have done before us. In a course of years afterwards, the stone blisters out like this white marble over the letters. Mr Tourne-

fort thinks the rock grows like oaks or apple trees for this reason; but I remember I saw some of the finest cockle and muscle shells, in the rock thereabouts, that ever I saw in my life. I wonder whether he thinks they grow there too. Besides, if this rock grows so fast, the cavern ought to be all grown up by this time; and yet, according to his measures and mine, the cavern seems on the other hand to be turned larger since. Indeed, all that I can gather from his account of this glorious place is, that he had drank a bottle or two too much before he went down into it.”

ANTIPAS HEROD, or HEROD-ANTIPAS, the son of HEROD the Great, by one of his wives called Cleopatra, a native of Jerusalem. Herod the Great, in his first will, appointed Antipas his successor in the kingdom; but afterwards, altering that will, he named his son Archelaus his successor, giving to Antipas the title only of tetrarch of Galilee and Peræa.

Antipas took a great deal of pains in adorning and fortifying the principal places of his dominions. He married the daughter of Aretas king of Arabia; whom he divorced about the year of Christ 33, to marry his sister-in-law Herodias, wife to his brother Philip, who was still living. St John the Baptist exclaiming continually against this incest, was taken into custody by order of Antipas, and imprisoned in the castle of Machærus, (Mat. xiv. 3, 4. Mark i. 14. vi. 17, 18. Luke iii. 19, 20.) Josephus says, that Antipas caused St John to be laid hold of, because he drew too great a concourse of people after him; and that he was afraid lest he should make use of the authority which he had acquired over the minds and affections of the people, to induce them to revolt. But the evangelists, who were better informed than Josephus, as being eye-witnesses of what passed, and acquainted in a particular manner with St John and his disciples, assures us that the true reason of imprisoning St John was, the aversion which Herod and Herodias had conceived against him for the liberty he had used in censuring their scandalous marriage. The virtue and holiness of St John were such that even Herod feared and respected him; but his passion for Herodias had prevailed with him to have killed that prophet, had he not been restrained by his apprehensions of the people, who esteemed John the Baptist as a prophet. (Mat. xiv. 5, 6.) One day, however, while the king was celebrating the festival of his birth, with the principal persons of his court, the daughter of Herodias danced before him; and pleased him so well, that he promised with an oath to give her whatever she should ask of him. By her mother’s advice she asked the head of John the Baptist: upon which the king commanded John to be beheaded in prison, and the head to be given her. Aretas, king of Arabia, to revenge the affront which Herod had offered to his daughter, declared war against him, and overcame him in a very obstinate engagement. Herod being afterwards detected as a party in Sejanus’s conspiracy, was banished by the emperor Caius to Lyons in Gaul; whither Herodias accompanied him.

This Antipas is the Herod who, being at Jerusalem at the time of our Saviour’s passion (Luke xxiii. 11.), ridiculed him, by dressing him in a white robe, and directing him to be conducted back to Pilate, as a mock king, whose ambition gave him no umbrage. The time when Antipas died is not known: however, it is certain



*Antipater, Antipath.* certain he died in exile, as well as Herodias. Josephus says, that he died in Spain, whither Caius upon his coming to Gaul, the first year of his banishment, might order him to be sent.

ANTIPATER, the disciple of Aristotle, and one of Alexander the Great's generals, was a man of great abilities, and a lover of the sciences; but was accused of poisoning Alexander. He subdued the revolted Thracians, relieved Megalopolis, and overthrew the Spartans there. He died 321 years before the Christian era.

ANTIPATER, an Idumean of illustrious birth, and possessed of great riches and abilities, taking advantage of the confusion into which the two brothers Hyrcanus and Aristobulus plunged Judea by their contest for the office of high priest, took such measures as to gain Hyrcanus that office, and under his government to obtain the absolute direction of all affairs; while his great abilities and application to business made him so considerable, that he was honoured as much as if he had been invested with the royal authority in form: but he was at last poisoned by a Jew, named Malachus, 43 years before the Christian era. He left among his other children, the famous Herod king of the Jews.

ANTIPATER, *Cælius*, a Roman historian, who wrote a history of the Punic war, much valued by Cicero. The emperor Adrian preferred him to Sallust.

ANTIPATER of Sidon, a Stoic philosopher, and likewise a poet, commended by Cicero and Seneca: he flourished about the 171st Olympiad. We have several of his epigrams in the *Anthologia*.

ANTIPATHY, in *Physiology*, is formed from the two Greek words *anti* contrary, and *patos* passion. Literally taken, the word signifies *incompatibility*: but for the most part the term *antipathy* is not used to signify such incompatibilities as are merely physical; it is reserved to express the aversion which an animated or sensitive being feels at the real or ideal presence of particular objects. In this point of view, which is the light in which we at present consider the term, *antipathy*, in common language, signifies "a natural horror and detestation, an insuperable hatred, an involuntary aversion, which a sensitive being feels for some other object, whatever it is, though the person who feels this abhorrence is entirely ignorant of its cause, and can by no means account for it. Such is, they say, the natural and reciprocal hostility between the salamander and the tortoise; between the toad and the weasel; or between sheep and wolves. Such is the invincible aversion of particular persons against cats, mice, spiders, &c.; a prepossession which is sometimes so violent, as to make them faint at the sight of these animals. Of these and a thousand other antipathies the ancient naturalists, the schoolmen, and the vulgar, form so many legends; and relate them as certain facts, that they may demand an explication of them from the philosophers. But these sages begin with investigating whether such antipathies actually exist or not.

To explore the matter without prejudice, we shall find it necessary to abstract from the subjects of this disquisition, 1. All such antipathies as are not ascertained; as that which is supposed to be felt by hens at the sound of an harp whose strings are made of a

*Antipathy.* fox's bowels, between the salamander and tortoise, and between the weasel and the toad. Nothing is less confirmed, or rather nothing is more false, than these facts, with which vulgar credulity and astonishment are amused and actuated: and though some of these antipathies should be ascertained, this would be no proof that the animals which feel them are not acquainted with their causes, according to their mode and proportion of knowledge; in which case it will be no longer the antipathy which we have defined.

2. We must abstract those antipathies which can be extinguished or resumed at pleasure; those fictitious aversions, which certain persons feel, or pretend to feel, with affected airs, that they may appear more precise and finical, or singularly and prodigiously elegant; that they may seem to have qualities so exquisitely fine, as require to be treated with peculiar delicacy. One who bestows any attention on the subject, would be astonished to find how many of these chimerical aversions there are, which are pretended, and passed upon the world by those who affect them as natural and unconquerable.

3. When we abstract those aversions the causes of which are known and evident; we shall be surpris'd after our deduction of these pretended antipathies from the general sum, how small, how inconsiderable, is the quantity of those which are conformable to our definition. Will any one pretend to call by the name of *antipathy*, those real, innate, and incontestable aversions which prevail between sheep and wolves? Their cause is obvious; the wolf devours the sheep, and subsists upon his victims; and every animal naturally flies with terror from pain or destruction; sheep ought therefore to regard wolves with horror, which for their nutrition tear and mangle the unresisting prey. From principles similar to this, arises that aversion which numbers of people feel against serpents; against small animals, such as reptiles in general, and the greatest number of insects. During the credulous and susceptible period of infancy, pains have been taken to impress on our minds the frightful idea that they are venomous; that their bite is mortal; that their sting is dangerous, productive of tormenting inflammations or tumours, and sometimes fatal: they have been represented to us as ugly and forbidding; as being, for that reason, pernicious to those who touch them; as poisoning those who have the misfortune to swallow them. These horrible prepossessions are industriously inculcated from our infancy; they are sometimes attended and supported by dismal tales, which are greedily imbibed, and indelibly engraven on our memories. It has been taught us both by precept and example, when others at their approach have assumed in our view the appearance of detestation and even of terror, that we should fly from them, that we should not touch them. Is it then wonderful (if our false impressions as to this subject have been corrected neither by future reflections nor experiments), that we should entertain, during our whole lives, an aversion for these objects, even when we have forgot the admonitions, the conversations, and examples, which have taught us to believe and apprehend them as noxious beings? and in proportion to the sensibility of our frame, in proportion as our nerves are irritable, our emotions at the sight of what we fear will be more violent, especially if they anticipate



**Antipathy.** our expectation, and seize us unprepared, though our ideas of what we have to fear from them are the most confused and indistinct imaginable. To explain these facts, is it necessary to fly to the exploded subterfuge of occult qualities inherent in bodies, to latent relations productive of antipathies, of which no person could ever form an idea?

It is often sufficient to influence a person who had formerly no aversion for an object, if he lives with some other associate who gives himself up to such capricious panics; the habit is insensibly contracted to be agitated with disagreeable emotions at the presence of an object which had been formerly beheld with indifference and cold blood. I was acquainted (says the author of the article *Antipathy* in the French Encyclopédie) with a person of a very sound understanding, whom thunder and lightning by no means terrified; nay, to whom the spectacle appeared magnificent and the sound majestic: yet to a mind thus seemingly fortified against the infectious terror, no more was necessary than spending the summer with a friend in whom the appearance of lightning excited the strongest emotions, and whom the remotest clap of thunder affected with extravagant paroxysms, to become timid in excess at the approach of thunder; nor could he ever afterwards surmount the fear which it inspired. The frightful stories of dogs and cats, which have killed their masters, or which have given them mortal wounds, are more than sufficient to inspire a timorous person with aversion against these animals; and if the olfactory nerves of such a person be delicate, he will immediately discover the smell of them in a chamber: disturbed by the apprehension which these effluvia excite in his mind, he gives himself up to the most violent uneasiness, which is tranquillized when he is assured that the animal is no longer in the room. If by chance, in the search which is made to calm the uneasiness of this timorous person, one of these creatures should at last be discovered, every one presently exclaims, *A miracle*: and admits the reality of *antipathies* into his creed; whilst all this is nothing but the effect of a childish fear, founded on certain confused and exaggerated ideas of the hazard which one may run with these animals. The *antipathy* which some people entertain against eels, though they are eaten by others with pleasure, arises from nothing but the fear of serpents, to which these fishes are in some degree similar. There are likewise other *antipathies* which do not originate in the imagination, but arise from some natural incongruity; such as we often remark in children, for particular kinds of victuals, with which their taste is not offended, but which their stomachs cannot digest, and which are therefore disgorged as soon as swallowed.

To what then are those *antipathies*, of which we have heard so much, reducible? Either to legendary tales; or to aversions against objects which we believe dangerous; or to a childish terror of imaginary perils; or to a disrelish, of which the cause is disguised; or to a ridiculous affectation of delicacy; or to an infirmity of the stomach; in a word, to a real or pretended reluctance for things which are either invested, or supposed to be invested, with qualities hurtful to us. Too much care cannot be taken in preventing, or regulating, the *antipathies* of children; in familiarizing them with objects of every kind; in discovering to them, without

emotion, such as are dangerous; in teaching them the means of defence and security, or the methods of escaping their noxious influence: and, when the rational powers are matured by age, in reflecting on the nature of those objects which we fear, in ascertaining what has been told concerning their qualities, or in vigorously operating upon our own dispositions to overcome those vain repugnancies which we may feel. See *SYMPATHY*, which is the opposite of *Antipathy*.

**ANTIPATHY**, in *Etics*, hatred, aversion, repugnancy. *Hatred* is entertained against persons; *aversion*, and *antipathy*, indiscriminately against persons or things; and *repugnancy*, against actions alone.

*Hatred* is more voluntary than *aversion*, *antipathy*, or *repugnancy*. These last have greater affinity with the animal constitution. The causes of **ANTIPATHY** are less known than those of *aversion*. *Repugnancy* is less permanent than either the one or the other. We hate a vicious character, we feel *aversion* to its exertions: we are affected with **ANTIPATHY** for certain persons at first sight; there are some affairs which we transact with *repugnancy*—*Hatred* calumniates; *aversion* keeps us at a distance from certain persons: **ANTIPATHY** makes us detest them; *repugnancy* hinders us from imitating them.

**ANTIPATRIS** (Acts xxiii. 31.), a town of Palestine, anciently called *Caphar Saba*, according to Josephus, but named *Antipatris* by Herod the Great, in honour of his father Antipater. It was situated in a pleasant valley near the mountains, in the way from Jerusalem to Casarea. Josephus places it at about the distance of seventeen miles from Joppa.

**ANTIPELARGIA**, among the ancients, a law, whereby children are obliged to furnish necessaries to their aged parents. The ciconia, or stork, is a bird famous for the care it takes of its parents when grown old. Hence, in some Latin writers, this is rendered *lex ciconiaria*, or the stork's law.

**ANTIPHONARY**, **ANTIPHONARIUM**, a service book, which contained all the invitatories, responsories, collects, and whatever else was sung or said in the choir, except the lessons. This is otherwise called *responsarium*, from the responses therein contained. The author of the Roman *antiphonary* was Pope Gregory the Great. We also find mention of nocturnal and diurnal *antiphonaries*, for the use of the daily and nightly offices; summer and winter *antiphonaries*; also *antiphonaries* for country churches, &c. By the provincial constitutions of Archbishop Winchelsey, made at Merton, A. D. 1305, it is required that one of these should be found in every church within the province of Canterbury. The use of these, and many other popish books, was forbid by the 3d and 4th of Edward VI. c. 10.

**ANTIPHONY**, the answer made by one choir to another, when the psalm or anthem is sung between two.

**ANTIPHONY** sometimes denotes a species of psalmody, wherein the congregation, being divided into two parts, repeat the psalms, verse for verse, alternately. In this sense, antiphony stands contradistinguished from symphony, where the whole congregation sings together.

Antiphony differs from responforium, because in this latter the verse is only spoken by one person, where-



Antiphony as in the former, the verses are sung by the two choirs alternately. The original of antiphonal singing in the western churches is referred to the time of St Ambrose, about the year 374. That father is said to have first introduced it into the church of Milan, in imitation of the custom of the eastern church, where it appears to be of greater antiquity, though as to the time of its institution, authors are not agreed; it was most probably introduced at Antioch, between the year of Christ 347 and 356.

ANTIPHONY is also used to denote the words given out at the beginning of the psalm, to which both the choirs are to accommodate their singing.

ANTIPHONY, in a more modern sense, denotes a kind of composition made of several verses extracted out of different psalms, adapted to express the mystery solemnized on the occasion.

ANTIPODES, in *Geography*, a name given to those inhabitants of the globe that live diametrically opposite to each other. The word is Greek, and compounded of *anti*, opposite, and *pus*, a foot; because their feet are opposite to each other.

The antipodes lie under opposite meridians and opposite parallels; in the same degree of latitude, but of opposite denominations, one being north and the other south. They have nearly the same degree of heat and cold, days and nights of equal length, but in opposite seasons. It is noon to one, when midnight to the other; and the longest day with the one, is the shortest with the other.

Plato is esteemed the first who thought it possible that the antipodes subsisted, and is looked upon as the inventor of the word. As this philosopher apprehended the earth to be spherical, he had only one step to make to conclude the existence of the antipodes.

The ancients, in general, treated this opinion with the highest contempt; never being able to conceive how men and trees could subsist suspended in the air with their feet upwards, for so they apprehended they must be in the other hemisphere.

They never reflected that these terms *upwards* and *downwards* are merely relative; and signify only nearer to, or farther from, the centre of the earth, the common centre to which all heavy bodies gravitate; and that, therefore, our antipodes have not their feet upwards and head downwards any more than ourselves; because they, like us, have their feet nearer the centre of the earth, and their heads farther from it. To have the head downwards and feet upwards, is to place the body in a direction of gravity tending from the feet to the head: but this cannot be supposed with regard to the antipodes; for they, like us, tend toward the centre of the earth, in a direction from head to foot.

ANTIPOLIS, in *Ancient Geography*, now ANTIPIBES, on the coast of Provence, a colony of the Massilians, near the river Verus, in Gallia Narbonensis (Livy), three leagues to the west of Nice. E. Long. 7. N. Lat. 43. 40.

ANTIQUARE, among *Roman Lawyers*, properly denotes the rejecting of a new law, or refusing to pass it. In which sense, *antiquating* differs from *abrogating*; as the latter imports the annulling an old law, the former the rejecting a new one.

ANTIQUARE is also used for a law's growing obsolete, or into disuse, either by age or non-observance.

ANTIQUARI, a name given to copiers of old books. After the decline of learning amongst the Romans, and when many religious houses were erected, learning was chiefly in the hands of the clergy; the greatest number of whom were regulars, and lived in monasteries. In these houses were many industrious men who were continually employed in making new copies of old books, either for the use of the monastery or for their own emolument. These writing monks were distinguished by the name of *Antiquarii*. They deprived the poor librarii, or common scribes, of great part of their business, so that these found it difficult to gain a subsistence for themselves and families. This put them upon finding out more expeditious methods of transcribing books. They formed the letters smaller, and made use of more jugations and abbreviations than had been usual. They proceeded in this manner till the letters became exceedingly small; the abbreviations were very numerous, and extremely difficult to be read. This in some measure accounts for the great variety of hands in the species of writing called *Modern Gothic*. When a number of copies were to be made of the same work, it was usual to employ several persons at the same time in writing it; each person, except him who wrote the first skin, began where his fellow was to leave off.

ANTIQUARY, a person who studies and searches after monuments and remains of antiquity; as old medals, books, statues, sculptures, and inscriptions; and, in general, all curious pieces that may afford any light into antiquity.

In the chief cities of Greece and Italy, there were persons of distinction called *antiquaries*, whose business it was to show strangers the antiquities of the place, to explain the ancient inscriptions, and to give them all the assistance they could in this way of learning.—Pausanias calls these antiquaries *Εξηγηται*. The Sicilians call them *mythagogi*.

There was an ancient college of antiquaries erected in Ireland by Ollamh Fodhla, 700 years before Christ, for composing a history of that country: And to this, say the Irish historians, it is owing that the history and antiquities of that kingdom may be traced back beyond those of most other nations.

There is a society of antiquaries in London, and another in Edinburgh, incorporated by the king's charter. See SOCIETY.

ANTIQUARY is also used by ancient writers for the keeper of the antiquarium or cabinet of antiquities. This officer is otherwise called *archæota*, or antiquary of a king, a prince, a state, or the like.

Henry VIII. gave John Leland the title of his *antiquary*; a title which, says the author of his life, nobody ever enjoyed besides himself. But the restriction, we suppose, was only intended to be understood in respect of the kings of England. M. Schott, we find, had the title of *antiquary* to the king of Prussia; P. Peduzzi, that of *antiquary* of the duke of Parma; M. Galland resided some time in Turkey under the title of *antiquary* of the king of France.—The university of Oxford have still their antiquary under the denomination of *custos archivorum*.—The kings of Sweden have been at great expences in order to illustrate the antiquity of their country, having established an academy of antiquaries with this single view.—The office



Antiquated of the ancient Irish antiquaries was to preserve the genealogies of the kings of Ireland, to correct the regal tables of succession, and deliver down the pedigree of every collateral branch of the royal family.

Antiquities

ANTIQUATED, something obsolete, out of date, or out of use.

ANTIQUÉ, in a general sense, something that is ancient: but the term is chiefly used by sculptors, painters, and architects, to denote such pieces of their different arts as were made by the ancient Greeks and Romans. Thus we say, an antique bust, an antique statue, &c.

ANTIQUÉ is sometimes contradistinguished from *antient*, which signifies a less degree of antiquity. Thus, antique architecture is frequently distinguished from ancient architecture.

ANTIQUITIES, a term implying all testimonies, or authentic accounts, that have come down to us, of ancient nations. Bacon calls antiquities *the wrecks of history*, or such particulars as industrious and learned persons have collected from genealogies, inscriptions, monuments, coins, names, etymologies, archives, instruments, fragments of history, &c.

*Antiquities* form a very extensive science, including "an historical knowledge of the edifices, magistrates, offices, habiliments, manners, customs, ceremonies, worship, and other objects worthy of curiosity, of all the principal ancient nations of the earth."

This science is not a matter of mere curiosity, but is indispensable to the theologian; who ought to be thoroughly acquainted with the antiquities of the Jews, to enable him properly to explain numberless passages in the Old and New Testaments: to the lawyer; who, without the knowledge of the antiquities of Greece and Rome, can never well understand and properly apply the greatest part of the Roman laws: to the physician and the philosopher, that they may have a complete knowledge of the history and principles of the physic and philosophy of the ancients: to the critic, that he may be able to understand and interpret ancient authors: to the orator and poet; who will be thereby enabled to ornament their writings with numberless images, allusions, comparisons, &c.

Antiquities are divided into sacred and profane, into public and private, universal and particular, &c. It is true, that the antiquaries (especially such as are infected with a spirit of pedantry, and the number of these is great) frequently carry their inquiries too far, and employ themselves in laborious researches after learned trifles; but the abuse of a science ought never to make us neglect the applying it to rational and useful purposes.

Many antiquaries also restrain their learned labours to the eclaireissement of the antiquities of Greece and Rome: but this field is far too confined, and by no means contains the whole of this science, seeing it properly includes the antiquities of the Jews, Egyptians, Persians, Phœnicians, Carthaginians, Hetruscans, Germans, and, in general, all those principal nations mentioned in ancient history: so far as any accounts of them are come down to us.

If to the general subjects above mentioned we add the particular study of antiques, of the statues, bas-reliefs, and the precious relics of architecture, painting, cameians, medals, &c. it is easy to conceive that

antiquities form a science very extensive and very complicated, and with which only a very small acquaintance could have been attainable by any one man, if our predecessors had not prepared the way for us; if they had not left us such inestimable works as those of Gronovius, Gravius, Montfaucon, Count Caylus, Winckelman, the Hebraic antiquities of D. Iken of Bremen, the Grecian antiquities of Brunnings, the Roman antiquities of Nieupoort, and especially that work which is entitled *Bibliographia Antiquaria Job. Alberti Fabricii*, professor at Hamburgh; &c. &c. Nor must we here forget that very valuable work, with which our countryman Mr Robert Wood has lately enriched this science, and which is so well known, and so justly esteemed by all true connoisseurs, under the title of the *Ruins of Palmyra*, and those of *Balbec*. It is by this work that we are fully convinced of the grandeur and magnificence, the taste and elegance, of the buildings of the ancients. We here see that the invention of these matters is not all owing to the Greeks, but that there were other nations who served them as models. For though many of the edifices of Palmyra are to be attributed to the emperor Aurelian, and to Odenatus and his wife Zenobia, who reigned there about the year 264, yet there are found at the same place ruins of buildings that appear to be of far greater antiquity, and that are not less beautiful. The ancient Persepolis is sufficient to prove this assertion. When we duly reflect on all these matters, and especially if we attempt to acquire any knowledge of this science, we shall soon be convinced that it but ill becomes a petitemaitre to laugh at a learned antiquary.

The knowledge of those monuments of the ancients, the works of sculpture, statuary, graving, painting, &c. which they call *antiques*, requires a strict attention with regard to the matter itself on which the art has been exercised; as the wax, clay, wood, ivory, stones of every kind, marble, flint, bronze, and every sort of metal. We should begin by learning on what matter each ancient nation principally worked, and in which of the fine arts they excelled: For the matter itself, as the different sorts of marble, compositions of metals, and the species of precious stones, serve frequently to characterize the true antique, and to discover the counterfeit. The connoisseurs pretend also to know, by certain distinct characters in the design and execution of a work of art, the age and nation where it was made. They find, moreover, in the invention and execution, a degree of excellence which modern artists are not able to imitate. Now, though we ought to allow, in general, the great merit of the ancients in the polite arts, we should not, however, suffer our admiration to lead us into a blind superstition. There are pieces of antiquity of every sort, which have come down to us; some that are perfectly excellent; and others so wretched, that the meanest among modern artists would not acknowledge them. The mixture of the good and bad has taken place in all subjects, at all times and in all nations. The misfortune is, that most of our great antiquaries have been so little skilled in designing as scarcely to know how to draw a circle with a pair of compasses. It is prejudice, therefore, which frequently directs them to give the palm to the ancients, rather than a judgment directed by a knowledge of the art. That character

Antiquities

of



**Antiquity** of expression which they find so marvellous in the works of antiquity, is often nothing more than a mere chimera. They pretend that the artists of our days constantly exaggerate their expressions; that a modern Bacchus has the appearance of a man distracted with intoxication; that a Mercury seems to be animated with the spirit of a fury; and so of the rest. But let them not decide too hastily. Almost all the antique figures are totally void of all spirit of expression; we are forced to guess at their characters. Every artificial expression requires, moreover, to be somewhat exaggerated. A statue or portrait is an inanimate figure; and must therefore have a very different effect from one which, being endowed with life, has the muscles constantly in play, and where the continual change of the features, the motion of the eyes, and the looks more or less lively, easily and clearly express the passions and sentiments. Whereas, in a figure, that is the produce of art, the delicate touches, that should express the passions, are lost to the eyes of the spectators: they must therefore be struck by strong bold characters, which can affect them at the first glance of the eye. A very moderate artist is sensible, at the same time, that he is not to give his figures extravagant expressions, nor to place them in distorted attitudes.

**ANTIQUITY** signifies times or ages past long ago. Thus, we say, the heroes of antiquity, &c.

**ANTIQUITY** is also used to denote the works or monuments of antiquity. See **ANTIQUITIES**.

**ANTIQUITY** likewise expresses the great age of a thing; and in this sense we say, the antiquity of a family, the antiquity of a kingdom.

**ANTIRRHINUM**, SNAP-DRAGON, OR CALVES SNOUT. See **BOTANY Index**.

**ANTIRRHIUM**, in *Ancient Geography*, a promontory at the mouth of the Corinthian bay, where it is scarce a mile broad, and where it separates Ætolia from the Peloponnesus; so called from its opposite situation to Rhium in Peloponnesus (Pliny): both are now called the *Dardanelles of Lepanto*.

**ANTISABBATARIANS**, a modern religious sect who oppose the observance of the Christian sabbath. The great principle of the Antisabbatarians is, that the Jewish sabbath was only of ceremonial, not moral obligation; and consequently is abolished by the coming of Christ.

**ANTISAGOGE**, in *Rhetoric*, a figure differing little from that called *concession*. The following passage from Cicero is an instance of it: *Difficilis ratio belli gerendi; at plena fidei, plena pietatis: et si dicas, magnus labor, multa pericula proponuntur; at gloria ex his immortalis est consecutura*. See **CONCESSION**.

**ANTISCII**, in *Geography*, people who live on different sides of the equator, whose shadows at noon are projected opposite ways. Thus the people of the north are Antiscii to those of the south; the one projecting their shadows at noon towards the north pole, and the other toward the south pole.

**ANTISCORBUTICS**, medicines good in scorbutic cases.

**ANTISEPTICS** (from *αντι* and *σηπτος* *putrid*, of *σηπω* *to putrify*), an appellation given to such substances as resist putrefaction.

We have some curious experiments in relation to an-

tiseptic substances by Dr Pringle, who has ascertained their several virtues. Thus, in order to settle the antiseptic virtue of salts, he compared it with that of common sea salt; which being one of the weakest, he supposes equal to unity, and expresses the proportional strength of the rest by higher numbers, as in the following table.

Salts, their antiseptic virtue.

Sea salt	-	1	Saline mixture	-	3
<i>Sal gemma</i>	-	1+	Nitre	-	4+
Tartar vitriolated	2		Salt of hartshorn	-	4+
<i>Spiritus Mindereri</i>	2		Salt of wormwood	-	4+
<i>Tartarus solubilis</i>	2		<i>Borax</i>	-	12+
<i>Sal diureticus</i>	-	2+	Salt of amber	-	20+
Crude <i>sal ammoniac</i>	3		Alum	-	30+

In this table the proportions are marked in integral numbers: only to some there is added the sign +, to show, that those salts are possessed of a stronger antiseptic virtue than the number in the table expresses, by some fractions: unless in the three last, where the same sign imports that the salt may be stronger by some units.

Some resinous and other substances even exceed the antiseptic virtues of the neutral salts; thus myrrh, *asafetida*, *terra japonica*, and aloe, are at least 12 times more antiseptic than sea salt. Two grains of camphor are equivalent to 60 grains of that salt. An infusion of a few grains of Virginian snake-root, in powder, exceeds 12 times its weight of sea salt. Chamomile flowers have nearly the same extraordinary quality. The Jesuits bark has it also. Besides these, pepper, ginger, saffron, contrayerva root, are 12 times more antiseptic than sea salt. Dried sage, rhubarb, the root of the wild valerian, mint, angelica, ground ivy, fenna, green tea, red roses, wormwood, mustard, and horse radish, were likewise found more antiseptic than the standard.

To the class of antiseptic medicines may likewise be added fermented liquors, acids, spirits, and even those plants called *anti-acids*, and erroneously supposed hasteners of putrefaction, particularly horse radish. Now vegetables, possessing this virtue, are the more valuable, in that being usually free of acrimony, they may be taken in much greater quantities than either spirits, acids, resins, or even the neutral salts.

Antiseptics are prescribed in all putrid, malignant, and pestilential cases. It is to be remarked, however, that different kinds of them are to be given in different diseases, and even in different stages of the same disease. Thus, the bark is a specific in gangrene, when the vessels are relaxed, and the blood resolved or disposed to putrefaction; but will fail, if the vessels are too full, or the blood be too thick. With the same caution is the bark to be used in wounds, viz. chiefly in cases of absorbed matter, when it infects the humours, and brings on a hectic fever.

By the great antiseptic virtue of alum, the bark, and other astringents, it should seem, that astringents had no small share in the cure of putrid disorders; and, indeed, the very nature of putrefaction consists in a separation or disunion of the parts. But as astringents are improper to be administered in many cases, contrayer-



*Antistasis* va root, snake root, camphor, &c. may supply their place; which, though highly antileptic, have very little, or any, of an astringent quality.

*Antitactæ*

**ANTISPASMODICS**, are medicines proper for the cure of spasms and convulsions. Opium, balsam of Peru, and the essential oils of many vegetables, are the principal in this class of medicines. Opium excels, for its immediate effects. Peruvian balsam, in many instances, produces more lasting benefit than opium, and sometimes succeeds where opium fails. As antispasmodics, the essential oils differ in this from opium, that they act more on a particular part than on the system in general, and have no soporific effect. Some medicines remove spasms by immediate contact, as asses milk, cream, oil of almonds; others by repelling heat, as gas, sulphur, nitre, sal ammoniac, &c. And where the strictures are produced by inanition and a defect of vital heat, spasms are removed by those medicines that restore the *vis vitæ*, such as valerian, castor, musk, &c.

**ANTISTASIS**, in *Oratory*, a defence of an action from the consideration that had it been omitted worse would have ensued. This is called by Latin writers *comparativum argumentum*; such, e. g. would be the general's defence who had made an inglorious capitulation, That, without it, the whole army must have perished.

**ANTISTHENES**, a Greek philosopher, and founder of the Cynics. He was born at Athens, and passed the former part of his life as a soldier. Having afterwards been an attendant at the lectures of Socrates, he was principally charmed with those exhortations of that great philosopher, which persuaded to frugality, to temperance, and to moderation; these Antisthenes was resolved to practice by carrying every precept to its utmost extent. Permitting therefore his beard to grow, he went about the streets in a thread-bare coat, scarcely to be distinguished from a common beggar. He prided himself upon the most rigid virtue, and thought himself obliged to attack the vicious wherever he found them. This gave him some reputation in the city; but it may be supposed, that, in a place so very luxurious as Athens, he had more enemies than disciples. His philosophy consisted rather in action than speculation: it was therefore his constant maxim, That to be virtuous was to be happy, and that all virtue consisted in action; that the wise man should live for himself, contented in all situations, and happy alone in the consciousness of his own virtue. He acknowledged nothing to be good but what was honourable; and asserted, that virtue might be acquired by practice. Laertius tells us there were 10 tomes of his works; and he has given us many of his apophthegms.

**ANTISTOECHON**, in *Grammar*, the using one letter instead of another: as *olli* for *illi*.

**ANTISTROPHE**, in *Grammar*, a figure by which two things mutually depending on one another, are reciprocally converted; as, *the servant of the master, the master of the servant*.

**ANTISTROPHE**, among *Lyric Poets*, that part of a song and dance in use among the ancients, which was performed before the altar, in returning from west to east; in opposition to strophe. See STROPHE and ODE.

• **ANTITACTÆ**, in *Church History*, a branch of

Gnostics, who held, that God was good and just, but that a creature had created evil; and consequently that it is our duty to oppose this author of evil, in order to avenge God of his adversary.

*Antithenar*  
*Antitype*

**ANTITHENAR**, in *Anatomy*, a name given to the adductor indicis. See ANATOMY, *Table of the Muscles*.

**ANTITHESIS**, in *Rhetoric*, a contrast or opposition of words or sentiments. Such is that of Cicero, in the second Catilinarian: "On one side stands modesty, on the other impudence; on one fidelity, on the other deceit; here piety, there sacrilege; here continency, there lust, &c." Such also is that of Augustus to some seditious young men, *Audite, juvenes, senem, quem juvenem senes audire*. Such again is that of Seneca: *Curæ læves loquuntur, ingentes stupent*. And that of Virgil:

*Flectere si nequeo superos, Acheronta movebo.*

St Augustine, Seneca, Salvian, and many other ancient writers, seem greatly to affect antitheses; but among the moderns they are generally decried. Desmaretz represents them as the favourites of young writers. The following is an example of modern antithesis.

———Though gentle, yet not dull;

Strong, without rage; without overflowing, full.

**ANTITHESIS** is sometimes used for controversy. In this sense, we meet with *antibetic* method, *antibetic* discourses, &c. Marcion composed a volume of Antitheses, or contrarieties and oppositions between the law and the gospel.

**ANTITRAGUS MUSCULUS**, in *Anatomy*, a muscle of the ear. See ANATOMY, *Table of the Muscles*.

**ANTITRINITARIANS**, those who deny the trinity, and teach that there are not three persons in the Godhead. Thus the Samosatensians who do not believe the distinction of persons in God; the Arians, who deny the divinity of the Word, and the Macedonians who deny that of the Holy Spirit, are all properly Antitrinitarians. Among the moderns, Antitrinitarians are particularly understood of Socinians, called also Unitarians.

The *Bibliotheca Antitrinitariorum*, or *Antitrinitarian Library*, is a posthumous work of Christopher Sandius, an eminent Antitrinitarian; wherein he gives a list, digested in order of time, of all the Socinian or modern Antitrinitarian authors, with a brief account of their lives, and a catalogue of their works. See UNITARIAN.

**ANTITYPE**, a Greek word, properly signifying a type or figure corresponding to some other type.

The word antitype occurs twice in the New Testament; viz. in the epistle to the Hebrews, ix. 24. and in St Peter, 1 Eph. iii. 21. where its genuine import has been much controverted. The former says, that "Christ is not entered into the holy places made with hands, which are, *αντιτυπα*, the figures or antitypes of the true—now to appear in the presence of God for us." Now *τυπος* signifies the pattern by which another thing is made; and as Moses was obliged to make the tabernacle, and all things in it, according to the pattern shown him in the mount; the tabernacle so formed was the antitype of what was shown to Moses: any thing, therefore, formed according to a model or pattern,

tern,



**Antium** is an antitype. In the latter passage, the apostle speaking of Noah's flood, and the deliverance only of eight persons in the ark from it, says, *ὅ και ημεις αντιτυπος υωωωζου βαπτισμας*, *Baptism being an antitype to that, now saves us; not putting away the filth of the flesh, but the answer of a good conscience towards God, &c.* The meaning is, that righteousness, or the answer of a good conscience towards God, now saves us by means of the resurrection of Christ, as formerly righteousness saved these eight persons by means of the ark, during the flood. The word antitype, therefore, here signifies a general similitude of circumstances; and the particle *α*, *whereunto*, refers, not to the immediate antecedent, *υδατος*, *water*, but to all that precedes.

**ANTITYPE**, among the *Ancient Greek Fathers*, and in the Greek liturgy, is also applied to the symbols of bread and wine in the sacrament. Hence it hath been argued, by many Protestants, that the Greeks do not really believe the doctrine of transubstantiation; because they call the bread and wine *antitypes*, *αντιτυπα*, q. d. figures, similitudes; and this even after the consecration.

**ANTIUM**, in *Ancient Geography*, a city of the Volsci, (Livy); situated on the Tuscan sea, yet without a harbour, because they had a neighbouring hamlet called *Ceno*, with a harbour, (Strabo). The Romans gained their first reputation in naval affairs against the Antiates; part of whose ships they conveyed into the arsenal of Rome, and part they burnt; and with their beaks or rostra adorned the pulpit erected in the forum, thence called *Rostra*, (Livy, Florus.) Here stood a famous temple of Fortune, (Horace). Addison says, there were two Fortunæ worshipped at Antium.—It is now extinct, but the name still remains in the *Capo d'Anzo*.

**ANTIVARI**, a strong town of Turkey in Europe, in Dalmatia, a Greek archbishop's see, and subject to the Turks. E. Long. 29. 15. N. Lat. 43. 0.

**ANTIVIRGILIAN HUSBANDRY**, an appellation given to Mr Tull's new method of horse-hoeing husbandry. See **AGRICULTURE**.

**ANTLER**, among *Sportsmen*, a start or branch of a deer's attire.

**BROW-ANTLER**, denotes the branch next the head; and,

**BES-ANTLER**, the branch next above the brow-antler.

**ANTLIA**, an ancient machine, supposed to be the same with our pump. Hence the phrase *in antliam condemnari*, according to the critics, denotes a kind of punishment whereby criminals were condemned to drain ponds, ditches, or the like.

**ANTOEICI**, in *Geography*, those inhabitants of the earth who live under the same meridian, and at the same distance from the equator: the one toward the north, and the other toward the south. Hence they have the same longitude; and their latitude is also the same, but of a different denomination. They are in the same semicircle of the meridian, but opposite in parallels. They have precisely the same hours of the day and night, but opposite seasons; and the night of the one is always equal to the day of the other.

**ANTOINE**, a town of France, in Dauphiny, in the diocese of Vienne, with a celebrated abbey. It is

seated among the mountains, 13 miles east of Lyons. E. Long. 5. 20. N. Lat. 45. 43.

**ANTONA**, (Tacitus); a river of Britain, which Camden supposes to be a faulty reading for *Avuona* or *Aufona*, (the Avon).

**ANTONACUM**, **ANTONNACUM**, or **ANTUNNACUM**, a town of the Treviri; now *Andernach*, below Coblentz. E. Long. 7. 5. N. Lat. 50. 25.

**ANTONIA**, a citadel of Jerusalem, the origin of which we have in Josephus: who says, that Hircanus, the first high-priest of that name, built Baris near the temple, a house with turrets, where he generally resided. Herod afterwards made it stronger, for the security and defence of the temple; and in honour of Marc Antony, who then commanded in the east, called it *Antonia*. It was very extensive, and could accommodate a Roman legion: from it there was a full view of the temple.

**ANTONIA, SAINT**, a town of France, in Rouergue, in the diocese of Rhodéz, whose fortifications are demolished. It is seated on the river Aveiron. E. Long. 0. 55. N. Lat. 44. 10.

**ANTONIAN WATERS**, medicinal waters of Germany, very pleasant to the taste, and esteemed good in many chronic and hypochondriac cases. See **TONSTEIN**.

**ANTONIANO, SILVIO**, a man of great learning, who raised himself from a low condition by his merit, was born at Rome in the year 1540. When he was but ten years old, he could make verses upon any subject proposed to him; and these so excellent, though pronounced extempore, that even a man of genius could not compose the like without a good deal of time and pains. The duke of Ferrara coming to Rome, to congratulate Marcellus II. upon his being raised to the pontificate, was so charmed with the genius of Antoniano, that he carried him to Ferrara, where he provided able masters to instruct him in all the sciences. From thence he was sent for by Pius IV. who made him professor of the belles lettres in the college at Rome. Antoniano filled this place with so much reputation, that, on the day when he began to explain the oration *pro Marco Marcello*, he had a vast crowd of auditors, and among these no less than 25 cardinals. He was afterwards chosen rector of the college; and after the death of Pius IV. being seized with a spirit of devotion, he joined himself to Philip Neri, and accepted the office of secretary to the sacred college, offered him by Pius V. which he executed for 25 years with the reputation of an honest and able man. He refused a bishopric which Gregory XIV. would have given him; but he accepted the office of secretary to the briefs, offered him by Clement VIII. who made him his chamberlain, and afterwards a cardinal. Antoniano killed himself by too great fatigue: for he spent whole nights in writing letters; which brought on a sickness, whereof he died, in the 63d year of his age. He wrote with such ease, and fluency, that he never almost made any blot or rasure; and it is said of him, that he preserved the flower of his virginity during his whole life.

**ANTONIDES VANDER GOES, JOHN**, an eminent Dutch poet, born at Goes in Zealand, the 3d of April 1647. His parents were Anabaptists, people of good character, but of low circumstances. They went to live at Amsterdam when Antonides was about four years



Antonides, old; and, in the ninth year of his age, he began his studies, under the direction of Hadrian Junius and James Cocceius. Antonides took great pleasure in reading the Latin poets, and carefully compared them with Grotius, Heinsius, &c. By this means he acquired a taste for poetry, and enriched his mind with noble ideas. He first attempted to translate some pieces of Ovid, Horace, and other ancients; and, having formed his taste on these excellent models, he at length undertook one of the most difficult tasks in poetry, to write a tragedy: this was entitled *Traxil*, or *The invasion of China*. Antonides, however, was so modest, as not to permit it to be published. Vondel, who was then engaged in a dramatic piece, which was taken also from some event that happened in China, read Antonides's tragedy; and was so well pleased with it, that he declared, if the author would not print it, he would take some passages out of it, and make use of them in his own tragedy. He accordingly did so; and it was reckoned much to the honour of Antonides, to have written what might be adopted by so great a poet as Vondel was acknowledged to be by all good judges. Upon the conclusion of the peace between Great Britain and Holland, in the year 1674, Antonides wrote a piece, entitled *Bellona aan band*, i. e. "Bellona chained;" a very elegant poem, consisting of several hundred verses. He next wrote an ingenious heroic poem, which he entitled *The River Y* (the river on which Amsterdam is built).

Antonides's parents had bred him up an apothecary; but his remarkable genius for poetry soon gained him the esteem and friendship of several persons of distinction; and particularly of Mr Buifero, one of the lords of the admiralty at Amsterdam, and a great lover of poetry, who sent him at his expence to pursue his studies at Leyden, where he remained till he took his degree of doctor of physic, and then his patron gave him a place in the admiralty. In 1678, Antonides married Susanna Bermans, a minister's daughter, who had also a talent for poetry. His marriage was celebrated by several eminent poets, particularly by the famous Peter Francius, professor of eloquence, who composed some Latin verses on the occasion. After marriage, he did not much indulge his poetic genius; and within a few years he fell into a consumption, of which he died on the 18th September 1684, being then but thirty-seven years and a few months old. He is esteemed the most eminent Dutch poet after Vondel. His works have been printed several times, having been collected by Father Anthony Tanfz. The last edition was printed by Nicholas Ten Hoom, at Amsterdam, in the year 1714, in 4to, under the direction of David Van Hoogstraaten, one of the masters of the Latin school of that city, who added to it also the life of the poet.

ANTONINUS PIUS, a celebrated Roman emperor, was born A. D. 86, at Lavunium in Italy. Distinguished for eminence of character, his family had long maintained the honour of the house of Nimes in Gaul, from whence they had descended. Both his father and grandfather had held the office of consul. Arius Antoninus his maternal grandfather by his amiable disposition, and love of literature, had acquired an eminent character, and was very intimate with Pliny the younger. Under him the young Titus

after his father's death completed his education. His character on arriving at the age of maturity, manifested itself in the most promising manner. To an improved understanding, a virtuous heart, a mild and dignified character, and a noble eloquence, he joined a happy physiognomy. Simple in his taste, and guided by temperance in all his actions and sentiments, he was entirely free from all affectation and pomposity.

In the year 120, among the many public honours which his birth and connexions gave him a claim to, he was elevated to the high post of consul, and was afterwards appointed by Adrian to be one of the four consulars, betwixt whom the supreme power of Italy was divided. Becoming in his turn proconsul of Asia, he acquitted himself with such reputation, that he even excelled his grandfather Arius who had formerly enjoyed that high trust. Returning from Asia he was not only received into the favour, but likewise the confidence and council of Adrian, and was always disposed to act with lenity. He married Annia Faustina, the daughter of Annus Verus, whose character was far from being untaxed with reproach, but his lenient disposition induced him to avoid public scandal, and he behaved towards his aged father-in-law with the most becoming respect. Two sons and two daughters were the fruits of this marriage. The sons died when they were young, and the eldest daughter, who was married to Lamia Sylvanus, died when Titus proceeded towards his Asiatic government. Faustina the youngest married Marcus Aurelius, who was afterwards emperor.

After the death of Verus, Adrian resolving to adopt Antoninus, he was induced to accept of the succession to so important a charge as the Roman empire, although with a considerable degree of reluctance, and was accordingly nominated by Adrian in February 25. A. D. 138, in the presence of a council of the chief senators, and at the same time created him his colleague in performing the proconsular and tribunitial duties. Extending his plans of adoption still farther, Adrian caused Antoninus adopt the son of Verus, then seven years of age, and Marcus Annus, afterwards named Aurelius, then seventeen years of age, a relation of Adrian's, and nephew to his own wife. The dutiful and merited attention which Antoninus bestowed on Adrian during the last months of his illness, gives a very high idea of his character. On July 10. A. D. 138, he succeeded to the empire amidst the universal acclamations of the senate and people, who anticipated in his well tried virtues that happiness which a good and wise sovereign is able to bestow upon his subjects.

The Roman world enjoyed such tranquillity under his reign that it affords few materials for history; yet it is to be regretted that Capitolinus is the only historian from whom any direct information can be received concerning this peaceful period, and he is none of the most perspicuous. It however appears that the usual honours and titles, together with the addition of the surname of Pius, which both his conduct and zeal in defending and honouring the memory of his predecessor united to suggest, were willingly conferred upon him by the senate. In the beginning of his reign there were several conspiracies formed against him, but this only afforded him an instance of signaling his clemency, which he did in the most striking manner. Although he was unable to prevent justice from taking its due



Antoninus. course against the ringleaders, he prohibited all investigation after their accomplices, and took the son of Attilius, one of the principal conspirators, under his protection. Various commotions were raised in several parts of the empire; but by the vigilance of his lieutenants, these were easily quelled. The incursions of the Brigantes in Britain were restrained, and a new wall which was built to the north of that of Adrian, from the mouth of the Esk to that of Tweed, and which was called the *Wall of Antoninus*, was fixed as the boundary of the Roman province in Britain. The reign of Antoninus upon the whole was singularly peaceful, and realized a saying of Scipio, "That he preferred saving the life of one citizen, to destroying a thousand enemies."

A desire of promoting the interest of his people, of protecting them from oppression, of administering justice through every corner of his realm, and of being instrumental to the happiness and peace of his government, influenced all his proceedings. He delighted greatly in laying before the senate the motives of all his actions, and in his manner of living and conversing he employed the same prudential œconomy and air of equality, which had distinguished his predecessors Trajan and Adrian. On account of the sweetness of his temper he bore with firmness many indignities offered him; and under his reign the race of informers were entirely extinguished, and condemnations and confiscations were very rare. The various public calamities which occurred in his time were all relieved by him with the greatest benevolence. He avoided as much as possible laying any burthens upon his people, and on this account made few journeys through his dominions. He was frugal in the use of the public revenues, but profuse in his own patrimony, a great œconomist, devoid of avarice, and very liberal towards works of ornament and utility, and even towards gratifying the pleasures of his people. A temple in honour of Adrian in Rome, and perhaps the amphitheatre and aqueduct at Nîmes, were his chief buildings.

Jurisprudence was to this emperor, like that of his predecessor, an interesting subject for improvement, and several decrees which he issued, display his commendable spirit of equity. The natural consequence of this equity was, that Antoninus acquired a reputation and fame which no military achievements could have conferred; and his friendship was courted by the neighbouring princes.

There is scarcely a blot to be found to tarnish his character; and frugality, modesty, and harmless amusement continued to employ his private hours. It may perhaps be admitted that he was too indulgent towards an unworthy wife, and that the divine honours he bestowed on her memory were not merited by her conduct. In the management of his complicated business, he was exact to such a degree that it was even ridiculed by some; but he found the daily advantage of this accuracy. The growing virtues of Marcus Aurelius soon drew his attention after he ascended the throne, and having given him his daughter in marriage, he declared him Cæsar. Nor was he mistaken in his choice; for Aurelius acted with

the utmost fidelity and affection amid all the honours Antoninus. that he continued to confer upon him. Enjoying this large share of domestic bliss, in the 74th year of his life he was seized with a fever at his favourite country seat of Lori. Convinced of his approaching fate, he convened the principal officers of the state, and confirmed his election of Aurelius, and gave him the imperial ensigns. A delirium ensued, in an interval of which he gave the watchword *Æquanimitas*, and calmly resigned his breath in the 23d year of his reign. His ashes were consigned to the tomb of Adrian, and divine honours paid to his memory. He was universally regretted, and succeeding emperors bore his name as a badge of honour. The senate and his successor erected a sculptured pillar to his memory, which is still shown to strangers as one of the chief ornaments of Rome. (*Gen. Biog.*)

ANTONINUS PHILOSOPHUS, *Marcus Aurelius*, the Roman emperor, born at Rome, the 26th of April, in the 121st year of the Christian era. He was called by several names till he was admitted into the Aurelian family, when he took that of Marcus Aurelius Antoninus. Hadrian, upon the death of Cæsonius Commodus, turned his eyes upon Marcus Aurelius; but, as he was not then 18 years of age, and consequently too young for so important a station, he fixed upon Antoninus Pius, whom he adopted, upon condition that he should likewise adopt Marcus Aurelius. The year after this adoption, Hadrian appointed him questor, though he had not yet attained the age prescribed by the law. After the death of Hadrian, Aurelius married Faustina, the daughter of Antoninus Pius, by whom he had several children. In the year 139, he was invested with new honours by the emperor Pius, in which he behaved in such a manner as endeared him to that prince and the whole people.

Upon the death of Pius, which happened in the year 161, he was obliged by the senate to take upon him the government; in the management of which he took Lucius Verus as his colleague. Dion Cassius says, that the reason of doing this was, that he might have leisure to pursue his studies, and on account of his ill state of health; Lucius being of a strong vigorous constitution, and consequently more fit for the fatigues of war. The same day he took upon him the name of Antoninus, which he gave likewise to Verus his colleague, and betrothed his daughter Lucilla to him. The two emperors went afterwards to the camp; where, after having performed the funeral rites of Pius, they pronounced each of them a panegyric to his memory. They discharged the government in a very amicable manner. It is said that, soon after Antoninus had performed the apotheosis of Pius, petitions were presented to him by the Pagan priests, philosophers, and governors of provinces, in order to excite him to persecute the Christians; which he rejected with indignation, and interposed his authority for their protection, by writing a letter to the common assembly of Asia, then held at Ephesus (A). The happiness which the empire began to enjoy under these two emperors was interrupted, in the year 162, by a dreadful inundation of the Tiber, which

(A) Eusebius has preserved this letter, Hist. Eccles. lib. iv. cap. 13. but he falsely ascribes it to Antoninus Pius, whereas it was wrote by Marcus Antoninus, as Valerius makes it appear in his annotations on Eusebius.



*Antoninus* which destroyed a vast number of cattle, and occasioned a famine at Rome. This calamity was followed by the Parthian war; and at the same time the Catti ravaged Germany and Rhaetia. Lucius Verus went in person to oppose the Parthians; and Antoninus continued at Rome, where his presence was necessary.

During this war with the Parthians, about the year 163 or 164, Antoninus sent his daughter Lucilla to Verus, the having been betrothed to him in marriage, and attended her as far as Brundisium: he intended to have conducted her to Syria; but it having been insinuated by some persons, that his design of going into the east was to claim the honour of having finished the Parthian war, he returned to Rome. The Romans having gained a victory over the Parthians, who were obliged to abandon Mesopotamia, the two emperors triumphed over them at Rome in the year 166; and were honoured with the title of *Fathers of their country*. This year was fatal, on account of a terrible pestilence which spread itself over the whole world, and a famine under which Rome laboured: it was likewise in this year that the Marcomanni, and many other people of Germany, took up arms against the Romans; but the two emperors having marched in person against them, obliged the Germans to sue for peace. The war, however, was renewed the year following, and the two emperors marched again in person; but Lucius Verus was seized with an apoplectic fit, and died at Altinum. The Romans were now defeated with great slaughter; and the emperor, not choosing to burden his subjects with new taxes, exposed to public sale the furniture of the palace, the gold and silver plate belonging to the crown, and his wife's rich garments embroidered with gold, and a curious collection of pearls, which Adrian had purchased during his long progress through the provinces of the empire, and was called *Adrian's cabinet*.

In the year 170, Antoninus made vast preparations against the Germans, and carried on the war with great vigour. During this war, in 174, a very extraordinary event is said to have happened, which, according to Dion Cassius, was as follows: Antoninus's army being blocked up by the Quadi, in a very disadvantageous place, where there was no possibility of procuring water; in this situation, being worn out with fatigue and wounds, oppressed with heat and thirst, and incapable of retiring or engaging the enemy, in an instant the sky was covered with clouds, and there fell a vast quantity of rain: the Roman army were about to quench their thirst, when the enemy came upon them with such fury, that they must certainly have been defeated, had it not been for a shower of hail, accompanied with a storm of thunder and lightning, which fell

upon the enemy, without the least annoyance to the Romans, who by this means gained the victory (a). In 175, Antoninus made a treaty with several nations of Germany. Soon after, Avidius Cassius, governor of Syria, revolted from the emperor: this insurrection, however, was put an end to by the death of Cassius, who was killed by a centurion named *Anthony*. Antoninus behaved with great lenity towards those who had been engaged in Cassius's party; he would not put to death, nor imprison, nor even fit in judgment himself upon any of the senators engaged in this revolt; but he referred them to the senate, fixing a day for their appearance, as if it had been only a civil affair. He wrote also to the senate, desiring them to act with indulgence rather than severity; not to shed the blood of any senator or person of quality, or of any other person whatsoever; but to allow this honour to his reign, that, even under the misfortune of a rebellion, none had lost their lives, except in the first heat of the tumult. In 176, Antoninus visited Syria and Egypt: the kings of those countries, and ambassadors also from Parthia, came to visit him. He staid several days at Smyrna; and, after he had settled the affairs of the east, went to Athens, on which city he conferred several honours, and appointed public professors there. From thence he returned to Rome with his son Commodus, whom he chose consul for the year following, though he was then but 16 years of age, having obtained a dispensation for that purpose. On the 29th of September, the same year, he gave him the title of *Imperator*; and on the 23d of December, he entered Rome in triumph, with Commodus, on account of the victories gained over the Germans. Dion Cassius tells us, that he remitted all the debts which were due to himself and the public treasury during 46 years, from the time that Hadrian had granted the same favour, and burnt all the writings relating to those debts. He applied himself likewise to correct many enormities, and introduced several excellent regulations. In the year 179, he left Rome with his son Commodus, in order to go against the Marcomanni, and other barbarous nations; and the year following gained a considerable victory over them, and would, in all probability, have entirely subdued them in a very short time, had he not been taken with an illness, which carried him off on the 17th of March 180, in the 59th year of his age, and 19th of his reign. The whole empire regretted the loss of so valuable a prince, and paid the greatest regard to his memory: he was ranked amongst the gods, and almost every person had a statue of him in their houses. His book of meditations has been much admired by the best judges.

*ANTONINE'S*

(a) The Pagans, as well as Christians, according to Mr Tillamont (p. 621. art. xvi.), have acknowledged the truth of this prodigy, but have greatly differed as to the cause of such a miraculous event; the former ascribing it, some to one magician and some to another: In Antoninus's pillar, the glory is ascribed to Jupiter, the god of rain and thunder. But the Christians affirmed, that God granted this favour at the prayer of the Christian soldiers in the Roman army, who are said to have composed the twelfth or Melitene legion; and, as a mark of distinction, we are told that they received the title of the *Thundering Legion*, from Antoninus (Euseb. Eccl. Hist. lib. v. cap. 5.) Mr Moyle, in the letters published in the second volume of his works, has endeavoured to explode this story of the Thundering Legion; which occasioned Mr Whiston to publish an answer, in 1726, entitled, *Of the Thundering Legion; or, Of the miraculous deliverance of Marcus Antoninus and his army, upon the prayers of the Christians.*



Antoninus. *ANTONINE'S Column.* See COLUMN.

*ANTONINUS'S Wall*, the name of the third rampart or defence that had been built or repaired by the Romans against the incursions of the North Britons. It is called by the people in the neighbourhood, *Graham's Dyke*; from the notion that one Graham, or Grimus, first made a breach in it after the retreat of the Romans out of Britain. The first barrier erected by the Romans was the chain of forts made by Agricola \* from the frith of Forth to that of Clyde, in the year 81, to protect his conquests from the inroads of the Caledonians. The second was the vallum, or dyke, flung up by Adrian † in the year 121. It terminated on the western side of the kingdom at *Axelodunum*, or *Brugh*, on the Solway fands, and was supposed to have reached no further than *Pons Ælii*, or *Newcastle*, on the eastern. But from an inscription lately discovered, it appears to have extended as far as the wall of Severus ‡. This rampart of Adrian's was situated much farther south than Agricola's chain; the country to the north having been either, according to some authors, recovered by the native Britons after the departure of Agricola; or, according to others, voluntarily slighted by Adrian. However, this work of Adrian's did not long continue to be the extreme boundary of the Roman territories to the north in Britain. For Antoninus Pius, the adopted son and immediate successor of Adrian, having, by his lieutenant Lollius Urbicus, recovered the country once conquered by Agricola, commanded another rampart to be erected between the friths of Forth and Clyde, in the track where Agricola had formerly built his chain of forts. The great number of inscriptions which have been found in or near the ruins of this wall, or rampart, to the honour of Antoninus Pius, leave us no room to doubt its having been built by his direction and command. If the fragment of a Roman pillar with an inscription, now in the college library of Edinburgh, belonged to this work, as it is generally supposed to have done, it fixes the date of its execution to the third consulship of Antoninus, which was A. D. 140, only 20 years after that of Adrian, of which this seems to have been an imitation. This wall or rampart, as some imagine, reached from Caer-ridden on the frith of Forth to Old Kirkpatrick on the Clyde; or, as others think, from Kinniel on the east to Dungslass on the west. These different suppositions hardly make a mile of difference in the length of this work, which, from several actual mensurations, appears to have been 37 English or 40 Roman miles. Capitolinus, in his life of Antoninus Pius, directly affirms, that the wall which that emperor built in Britain was of turf. This in the main is unquestionably true; though it is evident (from the vestiges of it still remaining, which not very many years ago were dug up and examined for near a mile together) that the foundation was of stone. Mr Camden also tells us, from the papers of one Mr Anthony Pont, that the principal rampart was faced with square stone, to prevent the earth from falling into the ditch. The chief parts of this work were as follows: 1. A broad and deep ditch, whose dimensions cannot now be discovered with certainty and exactness, though Mr Pont says, it was 12 feet wide. 2. The principal wall or rampart was about 12 feet thick at the foundation, but its original height cannot now be determined. This wall was situated on

the south brink of the ditch. 3. A military way on the south side of the principal wall, well paved, and raised a little above the level of the ground. This work, as well as that of Adrian, was defended by garri- sons placed in forts and stations along the line of it. The number of these forts or stations, whose vestiges were visible in Mr Pont's time, was 18, situated at about the distance of two miles from each other. In the intervals between the forts, there were turrets or watch towers. But the number of these, and their distance from each other, cannot now be discovered.

It is not a little surprising, that though it is now more than 1600 years since this work was finished, and more than 1300 since it was slighted, we can yet discover, from authentic monuments, which are still remaining, by what particular bodies of Roman troops almost every part of it was executed. This discovery is made from inscriptions upon stones, which were originally built into the face of the wall, and have been found in or near its ruins, and are carefully preserved. The number of stones with inscriptions of this kind now extant, is 11: of which six may be seen at one view in the college of Glasgow, one in the college of Aberdeen, one in the college of Edinburgh, one in the collection of Baron Clerk, one at Cochnoch house, and one at Calder house. From these inscriptions it appears in general, that this great work was executed by the second legion, the vexillations of the sixth legion and of the twentieth legion, and one cohort of auxiliaries. If these corps were all complete, they would make in all a body of 7800 men. Some of these inscriptions have suffered greatly by the injuries of time and other accidents; so that we cannot discover from them, with absolute certainty, how many paces of this work were executed by each of these bodies of troops. The sum of the certain and probable information contained in these inscriptions, as it is collected by the learned and illustrious Mr Horsley, stands thus:

	Paces.
The second legion built	11,603
The vexillation of the sixth legion	7411
The vexillation of the twentieth legion	7801
All certain	26,815
The vexillation of the twentieth legion, the mo- nument certain, and the number probable	3411
The same vexillation, on a plain monument, no number visible, supposed	3500
The sixth legion, a monument, but no number, supposed	3000
Cohors prima Cugernorum	3000
Total	39,726

or 39 miles 726 paces, nearly the whole length of the wall. It would have been both useful and agreeable to have known how long time these troops were employed in the execution of this great work. But of this we have no information. Neither do we know what particular bodies of troops were in garrison in the several forts and stations along the line of this wall, because these garri- sons were withdrawn before the *Notitia Imperii* was written.

Though we cannot discover exactly how many years this

\* See Agricola.

† See Adrian.

‡ See Severus.



Antonio. this wall of the emperor Antoninus continued to be the boundary of the Roman territories in Britain, yet we know with certainty that it was not very long. For we are told by an author of undoubted credit, that, in the reign of Commodus, A. D. 180, "he had wars with several foreign nations, but none so dangerous as that of Britain. For the people of the island, having passed the wall which divided them from the Romans, attacked them, and cut them to pieces."

Dio, l. 72.  
p. 802.

ANTONIO, NICHOLAS, knight of the order of St James and canon of Seville, did great honour to the Spanish nation by his *Bibliothèque* of their writers. He was born at Seville in 1617, being the son of a gentleman whom King Philip IV. made president of the admiralty established in that city in 1626. After having gone through a course of philosophy and divinity in his own country, he went to study law at Salamanca; where he closely attended the lectures of Francisco Ramos del Manzano, afterwards counsellor to the king and preceptor to Charles II. Upon his return to Seville, after he had finished his law studies at Salamanca, he shut himself up in the royal monastery of Benedictines, where he employed himself several years in writing his *Bibliotheca Hispanica*, having the use of the books of Bennet de la Sana, abbot of that monastery and dean of the faculty of divinity at Salamanca. In the year 1659, he was sent to Rome by King Philip IV. in the character of agent general from this prince: he had also particular commissions from the inquisition of Spain, the viceroys of Naples and Sicily, and the governor of Milan, to negotiate their affairs at Rome. The cardinal of Arragon procured him, from Pope Alexander VII. a canonry in the church of Seville, the income whereof he employed in charity and purchasing of books; he had above 30,000 volumes in his library. By this help, joined to continual labour, and indefatigable application, he was at last enabled to finish his *Bibliotheca Hispanica*, in four volumes in folio, two of which he published at Rome in the year 1672. The work consists of two parts; the one containing the Spanish writers who flourished before the 15th century, and the other those since the end of that century. After the publication of these two volumes, he was recalled to Madrid by King Charles II. to take upon him the office of counsellor to the crusade; which he discharged with great integrity till his death, which happened in 1684. He left nothing at his death but his vast library, which he had brought from Rome to Madrid; and his two brothers and nephews being unable to publish the remaining volumes of his *Bibliotheca*, sent them to Cardinal d'Aguiñe, who paid the charge of the impression, and committed the care thereof to Monsieur Marti, his librarian, who added notes to them in the name of the cardinal.

ANTONIO, ST, one of the Cape de Verd islands, lying in E. Long. 0. 26. N. Lat. 18. 10. It is separated from St Vincent's by a clear navigable channel two leagues in breadth. On the north side it has a good road for shipping, with a collection of fresh water rising from springs, which, however, scarcely merits the name of a pond. The island stretches from north-east to south-west, and is filled with mountains; one of which is of so extraordinary a height, as to be compared with the Peak of Teneriffe: Its top is constantly covered with snow, and, notwithstanding the clearness

of the sky, is generally hid in clouds. Here are produced a variety of fruits; oranges, lemons, palms, melons, &c. and some sugar canes. The potatoes and melons are particularly excellent, and are much sought after by mariners. But notwithstanding all this plenty, the inhabitants live in the most wretched poverty. They are in number about 500, chiefly negroes, under the protection of the Portuguese, whose language they speak, and imitate their manners. To the north-west stands a village, containing about twenty huts; and at least 50 families, under the direction of a governor, or, as they call him, a *captain*, a priest, and a schoolmaster.

ANTONIO, ST, a Dutch fort in Axim, on the Gold coast of Africa. It stands on a high rock, which projects into the sea in form of a peninsula; and is so environed by rocks and dangerous shoals, as to be inaccessible to an enemy but by land, where it is fortified by a parapet, drawbridge, and two batteries of heavy cannon. Besides this it has a battery towards the sea. The three batteries consist of 24 cannon. Its form is triangular; the building is neat, strong, and commodious for the extent, that being but small, on account of the narrowness of the rock on which it is built. The garrison is usually composed of 25 white men, and an equal number of negroes, under the command of a serjeant. It is maintained at the expence of the West India Company; and when well stored with provisions, is capable of making a long defence against any number of negroes. It is, however, as well as all other forts on this coast, liable to inconveniences from the heavy and continual rains, which damage the walls, and render frequent reparations necessary. This obliges the Dutch always to keep ready a quantity of lime or cement made of calcined oyster shells, of which the coast produces great numbers. This settlement was first founded by the Portuguese during the reign of Emanuel. They fixed it first upon a small point; where, finding themselves insecure, they built the fort where it now stands. They were driven out by the Dutch in 1642; and, upon the conclusion of a peace with the States General, the fort remained by treaty in the hands of the Dutch West India Company, who have kept possession of it ever since.

ANTONIUS MARCUS, a famous Roman orator. While he filled the office of prætor, Sicily fell to his lot, and he cleared the seas of the pirates which infested that coast. He was made consul with A. Posthumius Albinus, in the year of Rome 653; when he opposed the turbulent designs of Sextus Titus, tribune of the people, with great resolution and success. Some time after, he was made governor of Cilicia, in quality of proconsul; where he performed so many great exploits, that he obtained the honour of a triumph. We cannot omit observing, that, in order to improve his great talent for eloquence, he became a scholar to the greatest men at Rhodes and Athens, in his way to Cilicia, and when on his return to Rome. Soon after, he was appointed censor; which office he discharged with great reputation, having carried his cause before the people, against Marcus Duronius, who had preferred an accusation of bribery against him, in revenge for Antonius's having erased his name out of the list of senators, which this wise censor had done, because Duronius, when tribune of the people, had abrogated a law

Antonio,  
Antonius.



*Antonius*. law which restrained immoderate expence in feasts. He was one of the greatest orators ever known at Rome; and it was owing to him, according to the testimony of Cicero, that Rome might boast herself a rival even to Greece itself in the art of eloquence. He defended, amongst many others, Marcus Aquilius; and moved the judges in so sensible a manner, by the tears he shed, and the scars he showed upon the breast of his client, that he carried his cause. He never would publish any of his pleadings, that he might not, as he said, be proved to say in one cause, what might be contrary to what he should advance in another. He affected to be a man of no learning. His modesty, and many other qualifications, rendered him no less dear to many persons of distinction, than his eloquence made him universally admired. He was unfortunately killed during those bloody confusions raised at Rome by Marius and Cinna. He was discovered in the place where he had hid himself, and soldiers were sent to despatch him: but his manner of addressing them had such an effect, that none but he who commanded them, and had not heard his discourse, had the cruelty to kill him. His head was exposed before the rostra, a place which he had adorned with his triumphal spoils. This happened 90 years before the Christian era.

*ANTONIUS, Marcus*, the triumvir, grandson to the former, was very handsome in his youth; for which reason he was greatly beloved by Curio, a senator, who, by carrying him about in all his debaucheries, made him contract such heavy debts, that his own father forbade him his house. Curio, however, was so generous as to bail him for 250 talents. When the civil war broke out, Curio took Cæsar's party, and prevailed with Antonius to do the same; for which he was made a tribune of the people, and in that office did Cæsar great service. Cæsar having made himself master of Rome, gave Antonius the government of Italy: At the battle of Pharsalia, Cæsar confided so much in him, that he gave him the command of the left wing of his army, whilst he himself led the right. After Cæsar was made dictator he made Antonius general of the horse, though he had never been prætor; in which command he exerted his power with the utmost violence. He was made consul, when Cæsar enjoyed that honour for the fifth time, the last year of that usurper's life. On Cæsar's death, he harangued the populace with great art, and raised their fury against his murderers; flattering himself that he should easily get into the place which Cæsar had filled; but his haughty behaviour made him lose all the advantages his affected concern for Cæsar had gained him. His ill treatment of Octavius, and quarrel with him, produced another civil war; which ended in an accommodation between him, Octavius, and Lepidus, fatal to the peace of Rome. They agreed to share the supreme power among them; and many of the most illustrious Romans were sacrificed by proscription to cement this bloody league, which is known by the name of the *Second Triumvirate*. But the triumvirs were too ambitious, and hated one another too much, to be long united. Antonius went into Asia to raise money for his soldiers; during his absence, Fulvia his wife quarrelled with Octavius. When Antonius was in Asia, indulging himself in all manner of luxury, the famous Cleopatra inspired him with the most violent passion. Hearing of the quarrel between Fulvia and

Vol. II. Part II.

Octavius, and finding Octavius was become publicly his enemy, Antonius entered into a confederacy with Sextus Pompeius, who was still master of Sicily. He then went into Italy, in order to fight Octavius; but Fulvia, who had been the author and promoter of this war, dying, Octavius and Antonius came to an agreement. One of the conditions of this new peace was, that they should together attack Pompey, though the former had lately made an alliance with him. Antonius then married Octavia, sister to Octavius, as a pledge of their renewed friendship: but returned soon after to his beloved Cleopatra, and again lived with her in Alexandria. Octavius took hold of this pretence to inveigh against him, and begin the war again. At last they engaged in a sea fight at Actium, in which Octavius gained a complete victory; which was followed by the deaths both of Antonius and Cleopatra. The infatuated Antonius fell upon his own sword; and Cleopatra stung herself to death with an asp, as was supposed, to avoid gracing the victor's triumph at Rome.

*ANTONOMASIA*, a form of speech, in which, for a proper name, is put the name of some dignity, office, profession, science, or trade; or when a proper name is put in the room of an appellative. Thus a king is called his *majesty*; a nobleman, his *lordship*. We say the *philosopher* instead of Aristotle, and the *orator* for Cicero: Thus a man is called by the name of his country, a *German*, an *Italian*; and a grave man is called a *Cato*, and a wise man a *Solomon*.

*ANTOSIANDRIANS*, a sect of rigid Lutherans, who oppose the doctrine of Osiander relating to justification. These are otherwise denominated *Osiandro-mastiges*.—The Antosandrians deny that man is made just, with that justice wherewith God himself is just; that is, they assert, that he is not made essentially, but only imputatively, just; or, that he is not really made just, but only pronounced so.

*ANTRIM*, the most northerly county of Ireland. It is bounded by that of Down on the south-east, that of Londonderry on the west, from which it is separated by the river Bann, part of Armagh on the south, St George's channel on the east, and the Deu-Caledonian ocean on the north. Its greatest length is about 46 miles, its greatest breadth about 27; and the number of acres it contains, plantation measure, is computed at 383,000. Though the country is much encumbered with bogs and marshes, yet it enjoys a pretty good air, and is well peopled, chiefly with Protestants. Where it is free from bogs the soil is fruitful. It sends two members for the shire, and two for each of the following towns, viz. Lisburn, Belfast, Antrim, and Randalstown.

Certain narrow valleys, called *ghyvs*, beginning here, and running a great way along the coast, belonged formerly to the Bissets, noblemen of Scotland, who, having been obliged to quit that country for having assassinated Patrick earl of Athole upon a private quarrel, came hither, and had a great estate bestowed upon them by Henry III. of England; of which, in the reign of Edward II. a part was forfeited by the rebellion of Hugh, then chief of the family. Another tract near this, called the *Rowie*, belonged anciently to the Macguillers, but now to the M'Donnells earls of Antrim.

Upon the coast of this county are the promontories called



Antrim called by Ptolemy, *Robogdium*, *Vennicinium*, and *Boraum*, now *Fair Foreland*, *Ramshead*, and *St Helen's head*. The river also, styled by the same author *Vidua*, and now *Crodach*, runs through this county.—Here also is the remarkable natural curiosity called the *GIANT'S Causeway*, for a particular description of which see that article.

ANTRIM, the capital town of the county of Antrim, in Ireland, seated at the north end of the lake Lough Neagh, about six miles from the mouth of the bay, having a good road before it, with a pier near the place, within which vessels lie dry at low water. It was anciently a borough of great consequence, as appears from the mayor's being admiral of a considerable extent of coast, as well in Down as in this county; the corporation enjoying the customs paid by all vessels within those bounds, the creeks of Bangor and Belfast only excepted. This grant, however, the crown repurchased, and thereupon transferred the custom-house to Belfast, to which town it is now much inferior as well in size as in trade. It is, however, still a place of note, and sends two members to the house of commons. It gives the title of *earl* to the noble family of M'Donnel.—At Antrim is a seat, with noble demesnes, and beautiful and highly cultivated lands, of the earl of Massareene. W. Long. 6. 26. N. Lat. 54. 45.

ANTRUM, among *Anatomists*, a term used to denote several cavities of the body: as the *antrum high-morianum*, or that in the maxillary or jaw bone; *antrum pylori*, or that at the bottom of the pylorus, &c.

ANTWERP, a city of the duchy of Brabant, in the Austrian Netherlands, capital of the marquisate of the Antwerp, otherwise called the *marquisate of the holy Roman empire*, situated in E. Long. 4. 15. N. Lat. 51. 12. It lies in a low marshy ground on the Scheld, 24 miles from Brussels to the north. It is the third city in rank in Brabant, large and well built, containing 22 squares, and above 200 streets, all straight and broad, especially that called the *Mere*, in which six coaches can go abreast. Most of the houses are of freestone, and have an air of antiquity, being high, with courts before and gardens behind. At the head of the Mere is a crucifix of brass thirty-three feet high. The cathedral dedicated to the Virgin Mary, the stadthouse, and the exchange, are magnificent structures: the latter is the first building of that kind in Europe, and on its model the exchanges of London and Amsterdam are built. Its pillars are all of blue marble, and carved, but all in a different manner. The exchange cost the city 300,000 crowns. Antwerp, towards the end of the fifteenth century, was one of the most celebrated towns that ever existed. The Scheld, on which it stands, being 20 feet deep at low water, and rising 20 feet more at flood, ships of the greatest burden came up to the quays, as in the river Thames at London; but when the United Provinces formed themselves into a free state, after having shaken off the yoke of Spain, they got the entire command of the navigation of the Scheld; which ruined the trade of Antwerp, and transferred it to Amsterdam. This made the inhabitants turn their heads to painting, jewellery, and banking, which they have continued to this day with great success and reputation; for at Antwerp bills of exchange may be negotiated for any sum

to any part of Europe; and in the time of Queen Anne's wars, two brothers of the name of De Koning, paid the one the army of France, and the other that of the confederates. Besides, here is a fine manufacture of tapestry and lace; and, for the promoting of trade, an insurance company has been erected. This city is the see of a bishop, who, as abbot of St Bernard, is the second prelate in Brabant. The bishopric is of great extent, and the cathedral a most noble pile, with one of the finest steeples in the world. The emperor Charles V. when he made his entry into Antwerp, said it ought to be put in a case, and showed only once a year for a rarity. The house of the hanse towns, built when the city was in its flourishing condition, is a stately building, with magazines above for dry goods, and cellars below for wet, and in the middle story were 300 lodging rooms for merchants; but now it is turned to a horse barrack. There is a market here called the *Friday's market*, because it is held every Friday, where all sorts of household goods, pictures, and jewels, are sold by auction. No city in the Netherlands has so many and so fine churches as this. Many of them, particularly the cathedral and Jesuits church, are adorned with paintings, by Sir Peter Paul Reubens, who was a native of this city; and by Quintin Massys, who is said to have been a blacksmith; but having fallen in love with a painter's daughter, and been told by her father, when he asked her of him in marriage, that he would have none but a painter for his son-in-law, he went to Italy to study painting, and, in a few years, returned so eminent in his new profession, that he found no difficulty in obtaining the father's consent. He is interred at the entry of the cathedral, where his effigy is put up, with an inscription, signifying, that conjugal love made an Appelles of a blacksmith. The above-mentioned Jesuits church is extremely magnificent, and the chapel of the Virgin, joining to it, still more so. Among the cloisters the most remarkable are, the noble and rich abbey of St Michael, on the banks of the Scheld, the apartments of which are truly royal, and in which all sovereign princes that pass this way actually lodge; and the English nunnery, of the order of St Teresa, the nuns of which never wear linen, nor eat flesh, and lie upon straw: the grates of the convent are so dismal, that it looks like a prison. As to the fortifications of the city, it is environed with a fine wall, planted with rows of trees on each side, with walks between, broad enough for two coaches to go abreast, being also defended by a very strong, large, regular citadel, in form of a pentagon, erected by the duke of Alva in 1568, which commands the town and the neighbouring country. The magistracy of this city is chosen only out of the seven patrician families; and consists of two burgomasters and 18 echevins, besides inferior magistrates. Among the privileges granted to it by its princes, there is one by which every person born in it is a citizen, though both his father and mother were foreigners.

In 1585, Antwerp underwent a remarkable siege by the duke of Parma. It was then the most wealthy city in the Netherlands, and had long been the object of his designs; but the difficulties attending the enterprise obliged him to postpone it for a considerable time. In order to succeed, it was necessary to cut off the communication.



Antwerp. communication of the city with Holland, Ghent, and all places above and below Antwerp on the Scheld. To effect this, he laid siege to Liskenhouck and Tillo, places of the utmost consequence to the security and commerce of the city: both were obstinately defended; and the siege of the latter was raised, after it had been carried on for three months: however, the duke gained several other posts on the river, where he built forts, and greatly annoyed the shipping and trade of the city. He next laid siege to Dendermonde, in order to cut off the communication with Ghent, in which he succeeded by the reduction of the town. His next attempt was on Vilvorde: this place he took by assault, and thereby cut off the communication with Brussels. Finding, however, this method of hemming to the mouth of the river remained, he formed a design of building a bridge across the Scheld, the extremities of which were to be defended by strong forts and outworks. He began with collecting great quantities of wood at Callo and Fort St Philip, where he intended the bridge should be built; but his project was for some time retarded by the Antwerpers, who broke down the dykes, overflowed the whole country, and carried off his magazines by the inundation. Not discouraged by this loss, he applied himself diligently to repair it, and with incredible expedition cut a canal from Steken to Callo, by which he carried off the waters. He then set to work upon the bridge, and finished it in seven months, without any interruption from the Zealanders. During the building of this bridge, Aldegonde, governor of Antwerp, proposed to build a fort on Couvensteyn dyke, in order to secure that important post, and then breaking down the dyke when the bridge was near finished: but he was violently opposed by certain citizens, who apprehended that their lands and villas would be destroyed by the inundation. This unseasonable opposition, with the negligence of the magistrates, who, because the markets were high, had not laid in a sufficient stock of corn, occasioned the loss of the city. However, in despite of all the duke of Parma's precautions, the Zealanders found means to throw in a convoy of corn; but the citizens, knowing they would not run the risk of carrying it back again, so cheapened the price, that these bold traders refused ever to bring their goods again to so bad a market. The Antwerpers, having thus through avarice brought on their ruin, began in a short time to suffer by famine; they then pressed the Zealanders to attempt something for their relief, but it was now too late. While the magistrates were deliberating on some means for destroying the bridge, which they might have prevented from being ever completed, one Ginebelli, a Mantuan engineer, offered his services, undertaking at a certain expence to blow it into the air. Even in this extremity the expence was grudged: but necessity at last overcame this obstacle; Ginebelli was furnished with two large vessels, a number of small boats, and every thing necessary. He formed the two large vessels into fire ships, which he set adrift with the stream, deceiving the enemy by means of false fires lighted up in the fleet of small boats. The train of one of the fire ships was expended before the time expected, and she blew up with a terrible explosion, but with little damage to the bridge.

The other was more successful, carrying off all the outworks, setting fire to the whole bridge, and burying above 500 soldiers in the ruins it made. The fire, however, was soon extinguished, and the bridge repaired by the duke of Parma, while the Antwerpers were prevented by avarice from repeating the experiment; so that they were soon reduced to the greatest straits, and obliged to surrender. It is said that the city of Amsterdam had obstructed every measure for the relief of Antwerp, hoping to profit by its destruction. It was not doubted but the Protestants would forsake it as soon as it fell into the hands of an arbitrary Catholic prince; and this conjecture was soon fulfilled by the removal of many families with their effects to Amsterdam.—After the battle of Ramillies, the city of Antwerp surrendered to the duke of Marlborough. It was taken by the French in 1746, but restored to the house of Austria at the treaty of Aix-la-Chapelle.

ANUBIS, a symbolical deity of the Egyptians, was regarded as the faithful companion of Osiris and of Isis. Temples and priests were consecrated to him, and his image was borne in all religious ceremonies.

Cynopolis, the present Minieh, situated in the Lower Thebais, was built in honour of Anubis. The temple wherein he was worshipped no longer subsists. The priests celebrated his festivals there with great pomp, and consecrated the dog to him as his living representation. "Anubis (says Strabo) is the city of dogs, the capital of the Cynopolitan prefecture. These animals are fed there on sacred aliments, and religion has decreed them a worship." An event, however, related by Plutarch, brought them into considerable discredit with the people. Cambyse having slain the god Apis, and thrown his body into a field, all animals respected it except the dogs, which alone ate of his flesh. This impiety diminished the popular veneration for them.

Cynopolis was not the only city which burned incense on the altars of Anubis. He had chapels in almost all the temples. On solemnities, his image always accompanied those of Isis and Osiris. Rome having adopted the ceremonies of Egypt, the emperor Commodus, to celebrate the Isiac feasts, shaved his head, and himself carried the god Anubis. The statue of this god was either of massive gold or gilt, as well as the attributes that accompanied him. Anubis signifies *gilded*. The denomination was mysterious; and the Egyptian priests, it would seem, had not given it without reason.

The signification of this emblematical deity is thus explained by Plutarch: "The circle which touches and separates the two hemispheres, and which is the cause of this division, receiving the name of *horizon*, is called *Anubis*. He is represented under the form of a dog, because that animal watches day and night." St Clemens of Alexandria, who was well informed in the mystic theology of the Egyptians, favours this explanation. The two dogs, says he, (the two Anubis) are the symbols of two hemispheres which environ the terrestrial globe. He adds in another place: Others pretend that these animals, the faithful guardians of men, indicate the tropics, which guard the sun on the south and on the north like porters.

According to the former of these interpretations,



Anubis  
||  
Aorasia.

the priests, regarding Anubis as the horizon, gilded his statue; to mark, that this circle, receiving the first rays of the sun, appears sparkling with brightness on his rising, and that at his setting he reflects his last rays upon the earth. They said in their sacred fables, that Anubis was the son of Osiris, but illegitimate. In fact, he only gives to the earth a borrowed light; and cannot be esteemed, like Horus, as the father of the day, or as the legitimate offspring of Osiris. It may be added, that the visible horizon turning with the sun, is his inseparable companion.

In the latter of these explications, where Anubis represents the tropics, he is also the faithful guardian of Isis and Osiris. In fact, the course of the sun and of the moon is contained between the circles wherein the solstices are performed. They neither deviate to the right nor left. These limits assigned by the Author of nature might therefore, in hieroglyphic language, be represented by a divinity with the head of a dog, who seemed to oppose their passage on the side of the two poles. The other opinion, notwithstanding, seems more natural, and to be more analogous to the ideas of the priests.

Upon the whole, it is reasonable to imagine, that Anubis at first was only a symbolical image, invented by astronomers to give a sensible expression of their discoveries; that afterwards, the people, accustomed to see it in their temples, which were the depositaries of science, adored it as a deity; and that the priests favoured their ignorance by connecting it with their religion. The worship of Anubis introduced, that of the dog became his emblem. Almost all the gods of the Gentiles have originated in this manner.

ANUS, in *Anatomy*, the lower extremity of the intestinum rectum, or orifice of the fundament.

ANVIL, a smith's utensil, serving to place the work on to be hammered or forged. The face or uppermost surface of the anvil, must be very flat and smooth, without flaws, and so hard that a file will not touch it. At one end there is sometimes a pike, bickern or beak-iron, for the rounding of hollow work. The whole is usually mounted on a firm wooden block.—Forged anvils are better than those of cast work, and the best have the upper part made of steel. Locksmiths have a smaller kind of anvil called the *flake*, which is moveable, and placed ordinarily on their work bench. Its use is for setting small cold work straight, or to cut or punch on with the cold chissel or cold punch.

ANXUR, in *Ancient Geography*, a city of the Volsci, in Latium; called *Tarracina*, by the Greeks and Latins: Now *Terracina*; situated on an eminence (Livy, Horace, Sil. Italicus). *Anxuras*, a citizen of Anxur (Livy). And the epithet *Anxurus*, a name of Jupiter, worshipped without a beard at Anxur (Virgil). Though others read *Axuras*, or *Axyrus*, without a razor. E. Long. 14. 5. Lat. 41. 18.

AONIDES, in *Mythology*, one of the many appellations of the Muses; so called from Aonia, a part of ancient Bœotia.

AORASIA, in *Antiquity*, the invisibility of the gods. The word is Greek, *αορασια*, and derived from *α* priv. and *οραω*, to see. The opinion of the ancients with regard to the appearance of the gods to men, was that they never showed themselves face to face, but

were known from their backs as they withdrew. Neptune assumed the form of Calchas to speak to the two Ajaces; but they knew him not till he turned his back to leave them, and discovered the god by his majestic step as he went from them. Venus appeared to Aeneas in the character of a huntress: but her son knew her not till she departed from him; her divinity was then betrayed by her radiant head, her flowing robe, and her majestic pace.

AORIST, among *Grammarians*, a tense peculiar to the Greek language, comprehending all the tenses; or rather, expressing action in an indeterminate manner, without any regard to past, present, or future.

AORISTIA, in the *Sceptic Philosophy*, denotes that state of the mind wherein we neither assert nor deny any thing positively, but only speak of things as seeming or appearing to us in such a manner. The aoristia is one of the great points or terms of scepticism, to which the philosophers of that denomination had continual recourse by way of explication, or subterfuge. Their adversaries, the dogmatists, charged them with dogmatizing, and asserting the principles and positions of their sect to be true and certain.

AORNUS, a very high rock of India, having its name from its extraordinary height, as being above the flight of a bird. Its circuit was about 25 miles, its height 11 furlongs, and the way leading up to the top artificial and narrow. At the bottom, on one side, ran the river Indus; on the top was a fine plain, part of which was covered with a thick wood; the rest arable land, with a fountain furnishing abundance of excellent water. This rock was taken by Alexander the Great, in whose time there was a report that Hercules had attempted it in vain; however, according to Arrian, this report was without foundation. It is probable indeed, that it was raised after the place was taken, in order to magnify Alexander's exploit. While the Macedonian monarch was preparing all things necessary for the siege, an old man with his two sons, who had long lived in a cave near the summit, came and offered to show him a private way of ascending. This being readily accepted, Ptolemy, with a considerable body of light-armed troops, was despatched with them, with orders, in case they succeeded, to intrench themselves strongly upon the rock, in the wood to which the old man was to direct them, before they ventured to attack the Indians. Ptolemy exactly executed his orders; and gave notice, by a lighted torch set upon a pole, that he had got safely up. Upon this, Alexander gave immediate orders for a body of troops to attempt the passage by which the rock was commonly ascended; but they were repulsed with great slaughter. He then sent an Indian with letters to Ptolemy, desiring him, the next time an attack was made by the common way, to fall upon the enemy behind. But in the mean time, those who defended the rock attacked Ptolemy with great vigour; but were at last repulsed, though with much difficulty: but the next day, when Alexander renewed the attack, though Ptolemy attacked the Indians in the rear, the Macedonians were repulsed on both sides. At last, the king perceiving that the strength of the Indians lay in the straitness and declivity of the way by which they were attacked, caused a great quantity of trees to be felled, and with them filled the cavities between the plain on

Aorist  
||  
Aornus.

which



<sup>Aorta</sup>  
<sup>||</sup>  
<sup>Apelusia</sup>  
which the Indians were encamped and the highest of his own advanced posts. The Indians at first derided his undertaking; but at length perceiving the ardour with which the work was carried on, and having felt the effects of the missile weapons of the Macedonians, they sent deputies to propose terms of capitulation. Alexander, suspecting that their design was only to amuse him till they made their escape, withdrew his guards from the avenues. As soon as he knew the Indians were descended, he, with 700 of Ptolmy's light-armed foot, took possession of the deserted rock, and then made a signal for his forces to fall upon the flying Indians. They, setting up a loud shout, so terrified the fugitives, that numbers of them fell from the rocks and precipices, and were dashed to pieces, while the greatest part of the remainder were cut off in the roads.

AORTA, in *Anatomy*, the great artery which rises immediately from the left ventricle of the heart, and is from thence distributed to all parts of the body. It is divided into two grand trunks, distinguished by the epithets *ascending* and *descending*. See ANATOMY.

AOUSTA, or AOST, a town of Italy, in Piedmont, and capital of the duchy of the same name, a bishop's see, and subject to the king of Sardinia. It is remarkable for several monuments of the Romans, and for the birth of Anselm archbishop of Canterbury. It is seated at the foot of the Alps, on the river Doria. E. Long. 7. 33. N. Lat. 45. 38.

AOUSTA, a territory of Piedmont, with the title of a duchy. It is a valley 30 miles in length, and extends from the pass of St Martin's, near the frontiers of Yvree, to St Bernard. It abounds in pastures, and all sorts of fruits. The capital is of the same name.

AOUTA, the name of the paper mulberry tree at Otaheite, in the South sea, from which a cloth is manufactured that is worn by the principal inhabitants. See the article BARK.

APACHES, a people of New Mexico in North America. They are brave, resolute, and warlike, fond of liberty, and the inveterate enemies of tyranny and oppression. Of this disposition the Spaniards had fatal experience towards the end of the last century, when they revolted against the Catholic king, massacred several of his officers, and committed the greatest devastations. Ever since, they have remained the allies, not the subjects of the Spaniards; and the viceroy of Mexico has been obliged to maintain a more formidable garrison, and a greater number of troops.

APÆDUSIA, denotes ignorance or unskilfulness in what relates to learning and the sciences. Hence also persons uninstructed and illiterate are called *apædeute*. The term *apædeute* was particularly used among the French in the time of Huet; when the men of wit at Paris were divided into two factions, one called by way of reproach *apædeute*, and the others *eruditi*. The *apædeute* are represented by Huet as persons who, finding themselves either incapable or unwilling to undergo a severe course of study in order to become truly learned, conspire to decry learning, and turn the knowledge of antiquity into ridicule, thus making a merit of their own incapacity. The *apædeute* in effect were the men of pleasure; the *eruditi* the men of study. The *apædeute* in every thing pre-

ferred the modern writers to the ancient, to supersede the necessity of studying the latter. The *eruditi* derided the moderns, and valued themselves wholly on their acquaintance with the ancients.

APAGOGE, in *Logic*. See ABDUCTION.

APAGOGE, in the *Athenian Law*, the carrying a criminal taken in the fact to the magistrate. If the accuser was not able to bring him to the magistrate, it was usual to take the magistrate along with him to the house where the criminal lay concealed, or defended himself.

APAGOGE, in *Mathematics*, is sometimes used to denote a progress or passage from one proposition to another; when the first having been once demonstrated, is afterwards employed in the proving of others.

APAGOGICAL DEMONSTRATION, an indirect way of proof, by showing the absurdity of the contrary.

APALACHIAN MOUNTAINS, more properly called the *Alleghany Mountains*, have their southern beginning near the bay of Mexico, in the latitude of 30°, extending northerly on the back of the British colonies, and running parallel with the sea coast to the latitude of 40° north; but their distance from the sea, on the west, is not exactly known, though it is generally thought to be above 200 miles. A great part of these mountains is covered with rocks, some of which are of a stupendous height and bulk; the soil between them is generally black and sandy, but in some places differently coloured, composed of pieces of broken rock and spar, of a glittering appearance, which seem to be indications of minerals and ores, if proper search was made for them. Chestnuts and small oaks are the trees that principally grow on these mountains, with some *chinkapin*\* and other small shrubs. The grass is \* *Fagus* thin, mixed with vetch and small pease; and in some places there is very little vegetable appearance.

The rocks of the Apalachian mountains seem to engross one half of the surface. They are mostly of a light gray colour; some are of a coarse grained marble like alabaster; others of a metallic lustre: some pieces are in the form of slate, and brittle; others in lumps, and hard: and some appear with spangles, or covered over with innumerable small shining specks, like silver. These frequently appear at the roots of trees when blown down. The different spars are found mostly on the highest and steepest parts of the hills, where there is little grass and few trees; but the greatest part of the soil between the rocks is generally a dark sandy-coloured kind of mould, and shallow; yet fertile, and productive of good corn, which encourages the Tallipoos, a clan of the Cherokee Indians, to settle among them in latitude 34°: and they are the only Indian nation that has a constant residence upon these mountains.

APAMEA, or APAMIA, the name of several ancient cities.

1. One of Bithynia, formerly called *Myrlea*, from Myrlos, general of the Colophonians: destroyed by Philip, father of Perseus; and given to his ally Prusias, who rebuilt it, and called it *Apamea*, from the name of his queen Apama (Strabo). Stephanus says, that Nicomedes Epiphanes, son of Prusias, called it after his mother; and that it had its ancient name from Myrlea, an Amazon. The Romans led a colony thither (Strabo);

Apagoge  
||  
Apamea.



Apamea  
||  
Apanthro-  
py.

bo); called *Colonia Apamena* (Pliny, Appian). The gentilitious name is *Apameus* and *Apamenus* (Trajan in a letter to Pliny.)

2. Another *Apamea*, called *Cibotos*, of Phrygia, at some distance from the Meander (*Agathodæmon*); but by a coin of Tiberius, on the Meander. The name is from Apame, mother of Antiochus Soter, the founder, and the daughter of Artabazus (Strabo). The rise, or at least the increase, of Apamea, was owing to the ruins of Celenæ. The inhabitants were called *Apamienses*; and, though inland, were worshippers of Neptune. The reason, it has been conjectured, was, that they had suffered often from earthquakes, of which he was supposed the author. Mithridates gave a hundred talents towards the restoration of the city; which, it is said, had likewise been overthrown in the time of Alexander. Their tribute money was remitted to them for five years on the same account under the emperor Tiberius. The subterraneous passage of the Lycus and the other streams showed that the ground had many cavities; and these, it has been surmised, rendered the region very liable to be shaken.

3. A third, on the confines of Parthia and Media, surnamed *Raphane* (Strabo, Pliny).

4. A fourth *Apamea*, a town of Mesene, an island in the Tigris (Pliny, Ammian); where a branch of the Euphrates, called the *Royal River*, falls into the Tigris (Ptolemy).

5. A fifth in Mesopotamia, on the other side the Euphrates, opposite to Zeugma on this side, both founded by Seleucus, and joined by a bridge, from which the latter takes its name (Pliny, Isidor. Characenus).

6. A sixth *Apamea*, now *Famia*, also in Syria, below the confluence of the Orontes and Marfyas; a strong city, and situated in a peninsula, formed by the Orontes and a lake. "It is here (says Strabo) that the Seleucidæ had established the school and nursery of their cavalry." The soil of the neighbourhood, abounding in pasturage, fed no less than 30,000 mares, 300 stallions, and 500 elephants; instead of which, the marshes of Famia at present scarcely afford a few buffaloes and sheep. To the veteran soldiers of Alexander, who here reposed after their victories, have succeeded wretched peasants, who live in perpetual dread of the oppressions of the Turks and the inroads of the Arabs.

*Apamea* was also the ancient name of *Pella*, in the Decapolis.

APANAGE, or APPENNAGE, in the French customs, lands assigned by a sovereign for the subsistence of his younger sons, which revert to the crown upon the failure of male issue in that branch to which the lands are granted.

APANOMIA, a town of Santorin, an island in the Mediterranean sea, called in this part by some the *sea of Candia*. It has a spacious harbour, in the form of a half moon; but the bottom is so deep, that ships cannot anchor there. E. Long. 25. 59. N. Lat. 36. 18.

APANTHROPY, in *Medicine*, denotes a love of solitude, and aversion for the company of mankind. Apanthropy is by some reckoned among the symptoms, by others among the species or degrees of melancholy; and also passes for an ill indication in leucophlegmatic cases.

APARINE, in *Botany*, a synonyme of the urticularia and several other plants.

APARITHMESIS, in *Rhetoric*, denotes the answer to the protasis or proposition itself. Thus, if the protasis be, *Appellandi tempus non erit.*—The aparithmesis is, *At tecum anno plus vixi.*

APARTISMENUS, in the ancient poetry, an appellation given to a verse, which comprehended an entire sense or sentence in itself. This is sometimes also written *apartemenus*, i. e. suspended, as not needing any following verse.

APATHY, among the ancient philosophers, implied an utter privation of passion, and an insensibility of pain. The word is compounded of *a* priv, and *pathos*, affection. The Stoics affected an entire apathy; they considered it as the highest wisdom to enjoy a perfect calmness or tranquillity of mind, incapable of being ruffled by either pleasure or pain. In the first ages of the church, the Christians adopted the term *apaty* to express a contempt of all earthly concerns; a state of mortification, such as the gospel prescribes. Clemens Alexandrinus, in particular, brought it exceedingly in vogue; thinking hereby to draw the philosophers to Christianity, who aspired after such a sublime pitch of virtue. Quietism is only apathy disguised under the appearance of devotion.

APATURIA, in *Antiquity*, a solemn feast celebrated by the Athenians in honour of Bacchus. The word is usually derived from *απατη*, fraud. It is said to have been instituted in memory of a fraudulent victory obtained by Melanthus, king of Athens, over Xanthus, king of Bœotia, in a single combat, which they agreed upon, to put an end to a debate between them relating to the frontiers of their countries. Hence Budeus calls it *festum deceptionis*, "the feast of deceit."

Other authors give a different etymology of this feast: They tell us, that the young Athenians were not admitted into the tribes on the third day of the apaturia, till their fathers had first sworn that they were their own children; and that, till that time, they were supposed, in some measure, to be without fathers, *απατρος*; whence the feast, say they, took its name. Xenophon, on the other hand, informs us, that the relations and friends met on this occasion, and joined with the fathers of the young people who were to be received into the tribes; and that from this assembly the feast took its name: that in *απατηριω*, the *a*, far from being a privative, being here a conjunctive, signifies the same thing with *αμν*, together. This feast lasted four days: the first day, those of the same tribe made merry together; and this they called *δεσπια*. The second day, which they called *αναζευσις*, they sacrificed to Jupiter and Minerva. The third day, which they called *αυγεωσις*, such of their young men and maids as were of age were admitted into their tribes. The fourth day they called *εσιβσις*.

APAULIA, in *Antiquity*, the third day of a marriage solemnity. It was thus called, because the bride, returning to her father's house, did *απαυλιζουσαι τε νυμφιω*, lodge apart from the bridegroom. Some will have the apaulia to have been the second day of the marriage, viz. that whereon the chief ceremony was performed; thus called by way of contradistinction from the first day, which was called *προκυλιω*. On the

Aparine  
||  
Apaulia.



Ape  
|  
Apelles. the day called *απαυλια* (whenever that was), the bride presented her bridegroom with a garment called *απαυλιατηρια*.

APE, in *Zoology*, the general English name of a very numerous race of animals, the natural history of which is given at large under the article *SIMIA*; comprehending *Apes*, properly so called, or such as want tails; and *Monkeys* and *Baboons*, or such as have tails, the former *long*, and the other *short*, ones. See *SIMIA*.

*Sea Ape*, a name given by Steller to a marine animal which he saw on the coast of America, and is thus described\*. "The head appeared like that of a dog, with sharp and upright ears, large eyes, and with both lips bearded: the body round and conoid; the thickest part near the head: the tail forked; the upper lobe the longest: the body covered with thick hair, gray on the back, reddish on the belly. It seemed destitute of feet. It was extremely wanton, and played a multitude of monkey tricks. It sometimes swam on one side, sometimes on the other side of the ship, and gazed at it with great admiration. It made so near an approach to the vessel, as almost to be touched with a pole; but if anybody moved, it instantly retired. It would often stand erect for a considerable space, with one-third of its body above water; then dart beneath the ship, and appear on the other side; and repeat the same thirty times together. It would frequently arise with a sea plant, not unlike the bottle gourd, toss it up, and catch it in its mouth, playing with it numberless fantastick tricks.

APELYTES, Christian heretics in the second century, who affirmed that Christ received a body from the four elements, which at his death he rendered back to the world, and so ascended into heaven without a body.

APELLA, among *Physicians*, a name given to those whose prepuce is either wanting or shrunk, so that it can no longer cover the glans. Many authors have supposed this sense of the word *Apella* warranted from the passage in Horace, *credat Judæus Apella non ego*. But, according to Salmasius and others, *Apella* is the proper name of a certain Jew, and not an adjective signifying *circumcised*.

APELLES, one of the most celebrated painters of antiquity. He was born in the isle of Cos, and flourished in the time of Alexander the Great, with whom he was in high favour. He executed a picture of this prince, holding a thunderbolt in his hand: a piece, finished with so much skill and dexterity, that it used to be said there were two Alexanders; one invincible, the son of Philip; the other inimitable, the production of Apelles. Alexander gave him a remarkable proof of his regard: for when he employed Apelles to draw Campaspe, one of his mistresses, having found that he had conceived an affection for her, he resigned her to him; and it was from her that Apelles is said to have drawn his *Venus Anadyomene*.

One of Apelles's chief excellencies was his making his pictures exactly resemble the persons represented; insomuch that the physiognomists are said to have been able to form a judgment of the person's destiny as readily from his portraits as if they had seen the originals. But what is called *grace* was the characteristic of this artist. His pencil was so famous for drawing

fine lines, that Protogenes discovered by a single line that Apelles had been at his house. Protogenes lived at Rhodes: Apelles failed thither, and went to his house with great eagerness, to see the works of an artist who was known to him only by name. Protogenes was gone from home: but an old woman was left watching a large piece of canvass, which was fitted in a frame for painting. She told Apelles that Protogenes was gone out; and asked him his name, that she might inform her master who had inquired for him. "Tell him (says Apelles) he was inquired for by this person;"—at the same time taking up a pencil, he drew on the canvass a line of great delicacy. When Protogenes returned, the old woman acquainted him with what had happened. That artist, upon contemplating the fine stroke of the line, immediately pronounced that Apelles had been there; for so finished a work could be produced by no other person. Protogenes, however, himself drew a finer line of another colour; and, as he was going away, ordered the old woman to show that line to Apelles if he came again; and to say, "This is the person for whom you are inquiring." Apelles returned, and saw the line: he would not for shame be overcome; and therefore, in a colour different from either of the former, he drew some lines so exquisitely delicate, that it was utterly impossible for finer strokes to be made. Protogenes now confessed the superiority of Apelles, flew to the harbour in search of him, and resolved to leave the canvass with the lines on it for the astonishment of future artists.

Apelles showed great liberality of mind towards Protogenes. With ideas enlarged by education and literature, he was incapable of harbouring little jealousies of noble competitors; on the contrary, he was the first who made the works of Protogenes to be valued as they deserved among the Rhodians. He acknowledged that Protogenes was in some respects superior to himself; but that in one particular himself excelled, viz. in knowing when to take his hand from the picture; an art which Protogenes had not yet learned, and therefore over-worked his pieces. Apelles equally disapproved of too elaborate diligence, or too hasty negligence in execution. A studied work of Protogenes he esteemed less on the one account; and on the other, when a silly painter once brought him a picture, and said, "This I painted in a hurry,"—he replied, "Though you had not told me so, I perceived it was painted in haste: but I wonder you could not execute more such pieces in the same time."

There are two stories related of Apelles, which show him to be at once an artist of modesty, in amending even trifling improprieties, when pointed out to him by competent judges; and yet of self-confidence sufficient to make him know the perfection and value of his own paintings. It was customary with Apelles to expose to public view the works which he had finished, and to hide himself behind the picture, in order to hear the remarks passed on it by persons who chanced to view it. He once overheard himself blamed by a shoemaker for a fault in the slippers of some picture: he corrected the fault which the man had noticed: but on the day following the shoemaker began to animadvert on the leg; upon which Apelles with some anger looked out from behind the canvass, and bade him

keep

Apelles.



Apelles  
||  
Apenninus.

keep to his own province, "Ne futor ultra crepidam." It is well known that Alexander forbade any one besides Apelles to paint his portrait. We are not, however, to conclude from this, that Alexander was a more skilful judge of painting than he was of poetry. Like Augustus, he cherished the fine arts more from vanity than taste. A remarkable proof is given of this prince's inability to discern merit, and of the painter's freedom in expressing the mortification he felt, when a work of his was not sufficiently commended. "Alexander (says Ælian, Lib. ii. c. 3. Var. Hist.) having viewed the picture of himself which was at Ephesus, did not praise it as it deserved. But when a horse was brought in, and neighed at seeing the figure of a horse in the picture, as though it had been a real horse; O king! said Apelles) *this horse seems to be by far a better judge of painting than you.*" It happened more than once that the horses drawn by him were mistaken for real ones, by living horses which saw and neighed at the pictures. In his finishing a drawing of this animal, a remarkable circumstance is related of him. He had painted a horse returning from battle, and had succeeded to his wishes in describing every other mark that could indicate a mettlesome steed, impatient of restraint; there was wanting nothing but a foam of a bloody hue issuing from the mouth. He again and again endeavoured to express this, but his attempts were unsuccessful. At last, with vexation, he threw against the reins of the horse a sponge which had in it many colours; a mixture of which coming out of the sponge, and tinging the reins, produced the very effect desired by the painter.

The works of Apelles were all admired; but the most celebrated were the picture of Alexander in the temple of Diana at Ephesus, and that of Venus emerging from the sea. Alexander was drawn with thunder in his hand; and such relief was produced by the chiaro scuro in his piece, that the fingers seemed to shoot forward, and the thunderbolt to be out of the picture. His Venus *Αναδυομένη* was esteemed the most exquisite figure which the pencil could create: it is therefore extolled by the Roman poets Propertius and Ovid; and the poet of Sidon, Antipater, has left us the following Greek epigram on it:

Ταν αναδυομεναν απο μαλτρος αβι, θαλαττας  
Κυπριν, Απελλειν μοχθον ορα γραφιδος,  
Ως χειρ σιμμεντασα διαδροχοι υδατι καλιν  
Ευβλιβει νυκτερον αφρον απο πλοκαμων,  
Αυλαι νυν ερεσκιν Αθηναιν τε και Ηερ  
" Ουκ ελι σοι μορφασ εις εριν ερχομεθα."

Anth. iv. 12.

Graceful as from her natal sea she springs,  
Venus, the labour of Apelles, view:  
With pressing hand her humid locks she wrings,  
While from her tresses drips the frothy dew:  
Ev'n Juno and Minerva now declare,  
"No longer we contend whose form's most rare."

APENE, in *Antiquity*, a kind of chariot wherein the images of the gods were carried in procession on certain days, attended with a solemn pomp, songs, hymns, dancing, &c. It was very rich, made sometimes of ivory, or of silver itself, and variously decorated.

APPENNINUS, now the *Apennine*; a mountain, or

ridge of mountains, running through the middle of Italy, from north-west to south-west for 700 miles, in the form of a crescent (Pliny); beginning at the Alps in Liguria, or the Riviera di Genoa; and terminating at the strait of Messina, or at Reggio, and the promontory Leucopetra; and separating, as by a back or ridge, the Adriatic from the Tuscan sea (Pliny, Strabo, Ptolemy, Polybius, Vitruvius). This mountain, though high, is greatly short of the height of the Alps. Its name is Celtic, signifying a *high mountain*.

APENRADE, a town of Denmark in the duchy of Sleswick, seated at the bottom of a gulf in the Baltic sea, between Flenbourg and Hadafchleben. It is 25 miles north from Sleswick. E. Long. 9. 28. N. Lat. 55. 4.

APENZEL, a town of Switzerland, in the canton of the same name, seated on the river Chus, E. Long. 9. 1. N. Lat. 47. 31. The canton itself, which was allied to the others in 1513, consists only of three or four valleys; having the town and abbey of St Gall on the north; the county of Toggenburg on the west; the lordship of Sax in the canton of Zurich, and that of Gambs in the canton of Schweitz, on the south; and the Rheinthal, or Rhine-valley, on the east: Its greatest length is about thirty miles, and its breadth about twenty. It yields good pasturage, and consequently is not destitute of cattle, milk, butter, or cheese. Considerable quantities also of wheat, rye, barley, oats, beans, pease, flax, and wine, are produced in it; besides a great deal of fruit, wood, and turf; with mineral waters, and warm baths. There are many mountains in the canton, the highest of which is that called the *Hobefantis*, or the *Hobe Mesner*, which commands a prospect of a prodigious extent. There are also several lakes and rivers. The inhabitants, who are partly Protestants, and partly Roman Catholics, subsist chiefly by their manufactures of linen, crape, fustian, and thread, or by bleaching, and the sale of their cattle, butter, cheese, horses, wood, and coal. Of the twenty-three parishes in the canton, four are Popish, and nineteen Protestant. Before the Reformation, the inhabitants were subject to the abbot of St Gall; but they then shook off his yoke, and united themselves with the other cantons: after that, however, there were violent animosities between the Papists and Protestants, the former continually persecuting the latter, till at last, in 1587, by the mediation of the other cantons, the two parties came to an accommodation, by which certain districts were assigned to each party, whereas before they lived promiscuously together; and though these two divisions now constitute but one canton, yet each forms a distinct community or free state, sending its particular representatives to the diets of the confederacy, and having its separate councils and officers. In spirituals the Papists are subject to the bishop of Constance, but the Protestants to their own consistory. The militia of the former does not exceed 3000, whereas those of the latter amount to 10,000.

APEPSIA, (from a negative, and *πιψια*, to digest) Indigestion.

Abstemiousness and excess are alike causes of indigestion. An over-distension of the stomach may in some measure injure its proper tone; and long fasting, by inducing a bad quality in the juices secreted into the

Apennide  
||  
Apenra.



**Aper** ||  
**Aphasia.**  
 the stomach, renders it feeble, and generates wind. Hard drinking, and any of the causes of an anorexy, also injure digestion.

The columbo root is said to be particularly useful when the stomach is languid, the appetite defective, digestion with difficulty carried on, or when a nausea with flatulency attends. It is prescribed in substance, with any grateful aromatic, or infused in Madeira wine, now and then interposing gentle doses of the tincture of rhubarb.

A mixture of mustard seed with the columbo root is of admirable utility in complaints of this kind; particularly where acidity and flatulence prevail much in the the primæ viæ.

**APER**, in *Zoology*, a synonyme of the *fus scrofa*. See *Sus*.

**APERIENTS**, in the *Materia Medica*, an appellation given to such medicines as facilitate the circulation of the humours by removing obstructions. The five aperient roots of the shops are, smallage, fennel, asparagus, parley, and butchers broom.

**APERTURE**, the opening of any thing, or a hole or cleft in any continuous subject.

**APERTURE**, in *Geometry*, the space between two right lines which meet in a point and form an angle.

**APERTURE**, in *Optics*, a round hole in a turned bit of wood or plate of tin, placed within the side of a telescope or microscope, near to the object glass, by means of which more rays are admitted, and a more distinct appearance of the object is obtained.

**APERTURES**, or *Apertions*, in *Architecture*, are used to signify doors, windows, chimneys, &c.

**APETALOSE**, or **APETALOUS**, among *Botanists*, an appellation given to such plants as have no flower leaves.

**APEX**, the vertex or summit of any thing.

**ΑΡΕΧ**, in *Antiquity*, the crest of a helmet, but more especially a kind of cap worn by the flamens.

**ΑΡΕΧ**, among *Grammarians*, denotes the mark of a long syllable, falsely called a *long accent*.

**APHACA**, in *Ancient Geography*, the name of a place in Syria, situated between Heliopolis and Byblus, near Lebanon; infamous for a temple of Venus, called *Aphaceticis*, near which was a lake, round which fire usually burst forth, and its waters were so heavy, that bodies floated on them. The temple was destroyed by Constantine, as being a school of incontinence, (Eusebius.) The name is of Syriac origin, signifying *embraces*.

**APHÆRESIS**, in *Grammar*, a figure by which a letter or syllable is cut off from the beginning of a word. Thus *ciconia*, by aphæresis, is written *conia*; *contemnere*, *temnere*; *omittere*, *mittere*, &c.

A like retranchment at the end of a word is called **ΑΡΟCΟΡΕ**.

**ΑΡΗÆΡΕCΙC**, in *Medicine*, denotes a necessary taking away or removal of something that is noxious.—In surgery, it signifies an operation whereby something superfluous is taken away.

**APHANES**. See *BOTANY Index*.

**APHASIA**, (from *α*, and *φρημι*, "I speak,") in the sceptic philosophy, denotes a state of doubt, wherein a person not knowing what to determine on, it is best for him to be silent. In this sense, *aphasia* stands op-

posed to *phasis*, under which are included both assertion and negation.

**APHEK**, the name of several cities mentioned in Scripture. 1. Aphek in the tribe of Judah, where the Philistines encamped when the ark was brought from Shiloh, which was taken by them in battle, 1 Sam. iv. 1, 2, &c. It is thought to be the same with Aphekah mentioned in Josh. xv. 53. 2. Aphek in the valley of Jezreel, where the Philistines encamped while Saul and his army were near Jezreel, upon the mountains of Gilboa, 1 Sam. xxix. 1, &c. 3. Aphek a city belonging to the tribe of Asher, near the country of the Sidonians; (Josh. xix. 30. and xiii. 4.) 4. Aphek a city of Syria, one of the principal in Benhadad's kingdom, near which the battle was fought between Ahab and Benhadad, wherein the Syrians were worsted; and whereof, as they retreated with precipitation into the city, the walls fell upon them, and crushed in pieces 27,000, (1 Kings xx. 26, *et seq.*) This city lay between Heliopolis and Byblus.

**APHELIUM**, or **ΑΡΗΕΛΙΟΝ**, in *Astronomy*, is that point in any planet's orbit, in which it is farthest distant from the sun, being that end of the greater axis of the elliptical orbit of the planet most remote from the focus where the sun is.

**APHIOM**, **KARAHISSART**, a town of Natolia, in Asiatic Turkey; it is named *Aphiom*, because it produces a great deal of opium, called *aphiom* by the Turks. E. Long. 32. 18. N. Lat. 38. 35.

**APHIS**, the **PUCERON**, **VINE FRETTER**, or **PLANT-LOUSE**. See *ENTOMOLOGY Index*.

Linnaeus enumerates 33 species of the aphidæ, all of them inhabitants of particular plants, from which their trivial names are taken; as *aphis ribis*, *ulmi*, *rosæ*, &c. And he adds, that there seems to be a greater variety of plants producing aphides than there are different sorts of this insect. But some late observers have been able to distinguish more than double the above number of species; and it is probable that many more remain still to be added, as many of the same kind of plants are found to support two or three quite different sorts of aphides. Thus the plum tree has two sorts very distinct from each other; one of a yellowish green, with a round short body; the other of a blueish green, as it were enamelled with white, and the shape more oblong. On the gooseberry bush and currant the same aphides may be found; but each of these is inhabited by two very different species: the one being of a dusky green, with a short plump body; the other of a paler green, the body more taper, and transversely wrinkled. The rose tree, again, supports not less than three distinct species: the largest is of a deep green, having long legs of a brownish cast, with the joints of a very dark brown, as are also the horns and antennæ; a second sort is of a paler green, has much shorter legs, and a more flat body; the third sort is of a pale red, its body transversely wrinkled, and is most frequently on the sweet-briar.

The extraordinary nature of these insects has for some time past justly excited the wonder and attention of naturalists. They were long ranked among the animals which had been classed with the true androgynes spoken of by Mr Breynius; for having never been caught copulating, it was hastily concluded that



Aphis.

they multiplied without copulation. This, however, was but a doubt, or at best a mere surmise; but this surmise was believed and adopted by Mr Reaumur; and though he supported it by some observations peculiar to himself, the question remained still undecided, till Mr Bonnet seemed to have cleared it up in the affirmative, by taking and shutting up a young aphid at the instant of its birth, in the most perfect solitude, which yet brought forth in his sight 95 young ones. The same experiment being made on one of the individuals of this family, that had been tried with its chief, the new hermit soon multiplied like its parent; and one of this third generation, in like manner brought up in solitude, proved no less fruitful than the former. Repeated experiments, in this respect, as far as the fifth or sixth generation, all uniformly presenting the observer with *fecund virgins*, were communicated to the Royal Academy of Sciences; when an unforeseen and very strange suspicion, imparted by Mr Trembley to Mr Bonnet engaged him anew in a series of still more painful experiments than the foregoing. In a letter which that celebrated observer wrote to him from the Hague, the 27th January 1741, he thus expresses himself: "I formed, since the month of November, the design of rearing several generations of solitary pucerons, in order to see if they would all equally bring forth young. In cases so remote from usual circumstances, it is allowed to try all sorts of means; and I argued with myself, Who knows but that one copulation might serve for several generations?" This "*who knows*," to be sure, was next to avouching nothing; but as it came from Mr Trembley, it was sufficient to persuade Mr Bonnet that he had not gone far enough in his investigation. If the fecundity of aphides was owing to the secret copulation suggested by Mr Trembley; this copulation served at least five or more successive generations. Mr Bonnet therefore reared to the amount of the tenth generation of solitary aphides, and had the patience to keep an account of the days and hours of the births of each generation. In short, it was discovered, That they are really distinguished by sexes: That there are males and females amongst them, whose amours are the least equivocal of any in the world: that the males are produced only in the tenth generation, and are but few in number: that these, soon arriving at their full growth, copulate with the females: that the virtue of this copulation serves for ten generations: that all these generations, except the first, (from the fecundated eggs), are produced viviparous; and all the individuals are females, except those of the last generation, among whom, as we have already observed, some males make their appearance, to lay the foundation of a fresh series.—These circumstances have been confirmed by other naturalists. In particular we have a curious and accurate detail of them by Dr Richardson of Rippon, in the Philosophical Transactions, vol. xi. art. 22. an extract of which we shall here insert, in order to give the reader as full an insight into the nature of these singular insects, as can be done by a mere detail of facts in themselves utterly unaccountable.

"The great variety of species which occur in the insects now under consideration, may make an inquiry into their particular nature seem not a little perplexed; having them, however, skilfully reduced under their pro-

Aphis.

per genus, the difficulty is by this means considerably diminished. All the insects comprehended under any distinct genus, we may reasonably suppose to partake of one general nature; and, by diligently examining any of the particular species, may thence gain some insight into the nature of all the rest. With this view I have chosen, out of the various sorts of aphides, the largest of those found on the rose tree; not only as its size makes it the more conspicuous, but as there are few others of so long a duration. This sort appearing early in the spring, continues late in the autumn; while several are limited to a much shorter term, in conformity to the different trees and plants from whence they draw their nourishment.

1. "If at the beginning of February the weather happens to be so warm as to make the buds of the rose tree swell and appear green; small aphides are frequently to be found upon them, not larger than the young ones in summer when first produced. But there being no old ones to be found at this time of the year, which in summer I had observed to be viviparous, I was formerly not a little perplexed by such appearances, and almost induced to give credit to the old doctrine of equivocal generation. That the same kind of animal should at one time of the year be viviparous, and at another time oviparous, was an opinion I could then by no means entertain. This, however, frequent observation has at last convinced me to be fact; having found those aphides which appear early in the spring, to proceed from small black oval eggs, which were deposited on the last year's shoots in autumn; though when it happens that the insects make too early an appearance, I have observed the greatest part to suffer from the sharp weather that usually succeeds, by which means the rose trees are some years in a manner freed from them.

"Those which withstand the severity of the weather seldom come to their full growth before the month of April; at which time they usually begin to breed, after twice casting off their exuviae or outward covering. It appears then that they are all females, which produce each of them a very numerous progeny, and that without having intercourse with any male insect. As I observed before, they are viviparous; and what is equally uncommon, the young ones all come into the world backwards. When they first come from the parent they are enveloped by a thin membrane, having in this situation the appearance of an oval egg; which, I apprehend, must have induced Reaumur to suspect that the eggs discovered by Bonnet were nothing more than mere abortions. These egg-like appearances adhere by one extremity to the mother; while the young ones contained in them extend the other; by that means gradually drawing the ruptured membrane over the head and body to the hind feet. During this operation, and for some time after, by means of something glutinous, the fore part of the head adheres to the vent of the parent. Being thus suspended in the air, it soon frees itself from the membrane in which it was confined, and, after its limbs are a little strengthened, is set down on some tender shoot, and then left to provide for itself.

2. "In the spring months, there appear on the rose trees but two generations of aphides, including those which immediately proceed from the last year's eggs; the warmth of the summer adds so much to their fertility,



*Aphid.* lity, that no less than five generations succeed one another in the interval. One is produced in May, which casts off its covering; while the months of June and July each supply two more, which cast off their coverings three or four times, according to the different warmth of the season. This frequent change of the outward covering is the more extraordinary, as it is the ofteneft repeated when the insects come the soonest to their growth; which I have sometimes observed to happen in ten days, where warmth and plenty of nourishment have mutually conspired. From which considerations I am thoroughly convinced that these various coverings are not connate with the insect; but that they are, like the scarf skin, successively produced.

“Early in the month of June, some of the third generation which were produced about the middle of May, after casting off their last covering, discover four erect wings, much longer than their bodies; and the same is observable in all the succeeding generations, which are produced during the summer months; without, however, distinguishing any diversity of sex, as is usual in several other kinds of insects. For some time before the aphides come to their full growth, it is easy to discover which of them will have wings, by a remarkable fulness of the breast, which, in the others, is hardly to be distinguished from the body. When the last covering is rejected, the wings, which were before folded up in a very narrow compass, gradually extend themselves in a most surprising manner, till these dimensions are at last very considerable. But these winged ones have the peculiarity, that the number of them does not seem so much to depend on their original structure, as on the quantity or quality of the nourishment with which they are supplied; it being frequently observed, that those on a succulent shoot have few or none with wings among them, while others of the same generation, on a less tender branch, are most of them winged; as if only the first rudiments of wings were composed in the former, while nature thought proper to expand them in the latter, that they might be more at liberty to supply their wants.

“The increase of these insects in the summer time is so very great, that, by wounding and exhausting the tender shoots, they would frequently suppress all vegetation, had they not many enemies which restrain them. To enumerate the variety of other insects that in their worm and fly state are constantly destroying them, would exceed the bounds of the present design: there is one, however, so singular in the manner of executing its purpose, that I cannot pass by it without some further notice. This is a very small black ichneumon fly, with a slender body and very long antennæ, which darts its pointed tail into the bodies of the aphides, at the same time depositing an egg in each. This egg produces a worm, which feeds upon the containing insect till it attains its full growth; when it is usually changed to that kind of fly from whence it came. In this, however, it is sometimes prevented by another sort of small black fly, which wounds this worm through its pearl-like habitation; and by laying one of its eggs therein, instead of the former fly, produces its own likeness. I must, however, further observe, notwithstanding these insects have many enemies, they are not without friends; if we may consider those as such who are very officious in their attendance, for the

goods things they expect to reap thereby. The ant *Aphis.* and the bee are both of this kind, collecting the honey in which the aphides abound; but with this difference, that the ants are constant visitors, the bee only when flowers are scarce. To which let me also add, that the ants will suck in the delicious nectar while the aphides are in the act of discharging it from the anus; but the bees only collect it from the leaves on which this honey dew has fallen.

3. “In the autumn I find three more generations of aphides to be produced; two of which make their appearance in the month of August, and the third usually appears before the middle of September. As the two first differ in no respect from those which we meet with in summer, it would be wasting time to dwell any longer upon them; but the third, differing greatly from all the rest, demands our giving it a more serious attention. Though all the aphides which have hitherto appeared were females, in this tenth generation are found several male insects; not that they are by any means so numerous as the females, being only produced by a small number of the former generation. To which I must further add, that I have observed those which produced males, previously to have produced a number of females; which in all respects resembling those already described, I shall decline taking in to any further consideration.

“The females have at first altogether the same appearance with those of the former generations; but in a few days their colour changes from a green to a yellow, which is gradually converted into an orange colour before they come to their full growth. They differ likewise in another respect, at least from those which occur in the summer, that all those yellow females are without wings. The male insects are, however, still more remarkable, their outward appearance readily distinguishing them from the females of this and of all other generations. When first produced, they are not of a green colour like the rest, but of a reddish brown; and have afterwards, when they begin to thicken about the breast, a dark line along the middle of the back. These male insects come to their full growth in about three weeks time, and then cast off their last covering; the whole insect being, after this operation, of a bright yellow colour, the wings only excepted. But after this they soon change to a darker yellow: and in a few hours to a very dark brown; if we except the body, which is something lighter coloured, and has a reddish cast. They are all of the winged sort: and the wings, which are white at first, soon become transparent, and at length appear like very fine black gauze.

“The males no sooner come to maturity than they copulate with the females: in which act they are readily discovered, as they remain in conjunction for a considerable time, and are not easily disturbed. The commerce between them continues the whole month of October, and may be observed at all times of the day, though I have found it most frequent about noon; especially when the weather is moderately warm, and the sun overcast. The females, in a day or two after their intercourse with the males, I have observed to lay their eggs; which they usually do near the buds, when they are left to their own choice. Where there are a number crowded together, they of course interfere



<sup>Apis</sup>  
Aphrodisia. fere with each other; in which case they will frequently depofite their eggs on other parts of the branches, or even on the fpires with which they are befet."

These insects are found in great numbers not only on the ftems and leaves, but even upon roots of many trees and plants. Thofe trees that are moft loaded with the insects, as already obferved, fuffer greatly from them. The plant lice thruft their fharp pointed roftrum into the fubftance of the leaf to draw out their fuffenance, which warts the ftems and leaves, and occafions in the latter cavities underneath, and fwellings above; nay, even in fome, a kind of hollow gall filled with insects, as is often feen on elm leaves.

It appears aftonifhing that the flight puncture of fo fmall an animal fhould fo greatly diffigure a plant; but it muft be remembered, that plant lice always live in numerous affociations, which increafe vifibly by the prodigious fruitfulness of thofe insects; fo that although each puncture be flight, yet the number of them is fo great, fo reiterated, that it is no longer a wonder the leaves fhould be diffigured. Lovers of gardening and plants are extremely anxious to free and cleanfe their trees from this vermine; but their care often proves unavailing, the infect is fo fruitful that it foon produces a frefh colony. The beft and fureft method of extirpating it is to put on the trees infefed with them fome larvæ of the plant-loufe lion, or aphidivorous flies; for thofe voracious larvæ deftroy every day a great number of the insects, and that with fo much the more facility, as the latter remain quiet and motionlefs in the neighbourhood of thofe dangerous enemies, who range over heaps of plant lice, which they gradually wafte and diminifh.

APHLASTUM, in the ancient navigation, a wooden ornament, fhaped like a plume of feathers, faftened on the goofe's or fwan's neck ufed by the ancient Greeks in the heads of their fhips. The aphlastum had much the fame office and effect in a fhip that the creft had on the helmet. It feems alfo to have had this further ufe, viz. by the waving of a party coloured ribband faftened to it, to indicate from what quarter the wind blew.

APHONIA, among *Physicians*, fignifies a fuppreffion or total lofs of voice. It is never a primary difeafe; but a confequence of many different diforders. The cure is to be effected by removing the diforder from whence the aphonia proceeds.

APHORISM, a maxim or principle of a fciende; or a fentence which comprehends a great deal in a few words. The word comes from *αφαιρῶ*, *I feparate*; q. d. a choice or feleft fentence. The term is chiefly ufed in medicine and law. We fay the aphorifms of Hippocrates, of Sanctorius, of Boerhaave, &c. aphorifms of the civil law, &c.

APHRACTI, in the ancient military art, denotes open veffels, without decks or hatches, furnifhed only at head and ftern with crofs planks, whereon the men flood to fight.

APHRODISIA, in *Antiquity*, feftivals kept in honour of Venus, the moft remarkable of which was that celebrated by the Cyprians. At this folemnity feveral myfterious rites were praftifed: all who were initiated to them offered a piece of money to Venus as a harlot, and received as a token of the goddefs's favour a meafure of falt, and a *φειλλος*; the former, becaufe falt

is a concretion of fea water, to which Venus was thought to owe her birth; the latter, becaufe ſhe was the goddefs of wantonnefs.

APHRODISIACS, among *Physicians*, medicines which increafe the quantity of femen, and create an inclination to venery.

APIRODITA. See *HELMINTHOLOGY Index*.

APIRODITE, in *Mythology*, a name of Venus, derived from *αφος*, *froth*; becaufe, according to the poets, Venus is fupposed to have been produced from the froth or foam of the fea.

APHRONITRE, in *Natural Hiftory*, a name given by the ancients to a particular kind of natrum.

APHTHÆ, in *Medicine*, fmall, round, and fuperficial ulcers arifing in the mouth. See *MEDICINE Index*.

APHTHARTODOCETÆ, a feft, fworn enemies of the council of Chalcedon. The word is derived from *αφθαρος*, *incorruptible*, and *δοκω*, *I imagine*; and was given them, becaufe they imagined the body of Jefus Chrift was incorruptible and impaffible, and not capable of death. They arofe among the Eutyrians, and made their firft appearance in the year 535.

APHYLLANTHES, LEAFLESS FLOWER, or BLUE MONTPELIER PINK. See *BOTANY Index*.

APIARY, a place where bees are kept. See the article BEE.

APIASTER, in *Ornithology*, the trivial name of a fpecies of the merops. See *MEROPS, ORNITHOLOGY Index*.

APICES, in *Botany*, the fame with ANTHÈRÆ.

APICIUS. There were at Rome three of that name, famous for their gluttony; the fecond is the moft celebrated of the three. He lived under Tiberius, fpent immense fums on his belly, and invented divers forts of cakes which bore his name. He kept as it were a fchool of gluttony at Rome. After having fpent two millions and a half in entertainments, finding himfelf very much in debt, he examined into the ftate of his affairs; and feeing that he had but 250,000 livres remaining, he poifoned himfelf, out of apprehenfion of ftarving with fuch a fum. He had prostituted himfelf when very young to Sejanus.

APINA, or *Apine*, a town of Apulia, built by Diomedes, as was alfo Tricæ (Pliny). *Apina* and *Tricæ* is a proverbial faying for things trifling and of no value (Martial); and *Apinari* was the appellation for trifiers or buffoons, (Trebellius Pollio).

APION, a famous grammarian, born in Egypt, was a profeflor at Rome in the reign of Tiberius. He had all the arrogance of a mere pedant, and amufed himfelf with difficult and insignificant inquiries. One of his principal works was his *Antiquities of Egypt*.

APIS, in *Mythology*, a divinity worſhipped by the ancient Egyptians at Memphis. It was an ox, having certain exterior marks; in which animal the foul of the great Ofiris was fupposed to fubfift. This animal had the preference to all others, as being the fymbol of agriculture, the improvement of which that prince had fo much at heart.

According to feveral learned writers on the Egyptian religion, Apis was only a fymbolical deity. "Amongft the animals confecrated to ancient rites (fays Ammianus Marcellinus), Mnevis and Apis are the moft celebrated: the firft is an emblem of the fun, the fecond

Apbrodisiacs  
||  
Apis.



cond of the moon." Porphyry tells us, that Apis bore the characteristic signs of the two stars; and Macrobius, who confirms this opinion, adds, that he was equally consecrated to them both.

This bull, become the object of public adoration, it may be supposed, could not be born like other animals; accordingly the priests published that his origin was celestial. "An Apis is seldom born, (says Pomponius Mela). He is not produced by the ordinary laws of generation. The Egyptians say he owes his birth to celestial fire." Plutarch explains this passage: "The priests pretend that the moon diffuses a generative influence, and as soon as a cow who takes the bull is struck by it, she conceives an Apis. Accordingly we discover in him the signs of that star."

Such were the fables industriously spread by those who presided over the divine institutions. The vulgar, to whom this emblematical deity presaged abundance, received them eagerly, and implicitly believed them. Pliny has described the characters which distinguished this sacred bull: "A white spot, resembling a crescent, on the right side, and a lump under the tongue, were the distinguishing marks of Apis." When a cow, therefore, which was thought to be struck with the rays of the moon, produced a calf, the sacred guides went to examine it, and if they found it conformable to this description, they announced to the people the birth of Apis, and fecundity.

"Immediately (says Ælian) they built a temple to the new god, facing the rising sun, according to the precepts of Mercury, where they nourished him with milk for four months. This term expired, the priests repaired in pomp to his habitation, and saluted him by the name of Apis. They then placed him in a vessel magnificently decorated, covered with rich tapestry, and resplendent with gold, and conducted him to Nilopolis, singing hymns, and burning perfumes. There they kept him for forty days. During this space of time, women alone had permission to see him, and saluted him in a particular manner. After the inauguration of the god, in this city, he was conveyed to Memphis with the same retinue, followed by an innumerable quantity of boats, sumptuously decked out. There they completed the ceremonies of his inauguration, and he became sacred to all the world. Apis was superbly lodged, and the place where he lay was mystically called *the bed*. Strabo having visited his palace, thus describes it: "The edifice where Apis is kept, is situated near the temple of Vulcan. He is fed in a sacred apartment, before which is a large court. The house in which they keep the cow that produced him, occupies one of its sides. Sometimes, to satisfy the curiosity of strangers, they make him go out into this court. One may see him at all times through a window; but the priests produce him also to public view." Once a year (says Solinus) they present a heifer to him, and the same day they kill her.

A bull, born in so marvellous a manner, must be possessed of supernatural knowledge. Accordingly the priests published, that he predicted future events by gestures, by motions, and other ways, which they construed according to their fancy. "Apis (says Pliny) has two temples called *Beds*, which serve as an augury for the people. When they come to consult him, if he enters into a particular one, it is a favourable pre-

sage, and fatal if he passes into the other. He gives answers to individuals by taking food from their hands. He refused that offered him by Germanicus, who died soon after." It would be unjust to conclude, that this respectable writer gave credit to such auguries. He relates the opinion of the Egyptians, and contents himself with citing facts without offering his judgment.

Such was the installation of Apis. His anniversary was always celebrated for seven days. The people assembled to offer sacrifices to him, and what is extraordinary, oxen were immolated on the occasion. This solemnity did not pass without prodigies. Ammianus Marcellinus, who has collected the testimonies of the ancients, relates them in these words: "During the seven days in which the priests of Memphis celebrate the birth of Apis, the crocodiles forget their natural ferocity, become gentle, and do no harm to anybody."

This bull, however, so honoured, must not exceed a mysterious term fixed for his life. "Apis (says Pliny) cannot live beyond a certain number of years. When he has attained that period they drown him in the fountain of the priests; for it is not permitted, adds Ammianus Marcellinus, to let him prolong his life beyond the period prescribed for him by the sacred books." When this event happened, he was embalmed, and privately let down into the subterraneous places destined for that purpose. In this circumstance, the priests announced that Apis had disappeared; but when he died a natural death, before this period arrived, they proclaimed his death, and solemnly conveyed his body to the temple of Serapis.

"At Memphis was an ancient temple of Serapis which strangers were forbidden to approach, and where the priests themselves only entered when Apis was interred. It was then (says Plutarch) that they opened the gates called *Lethe* and *Cocytus* (of oblivion and lamentation), which made a harsh and piercing sound."

Ammianus Marcellinus, and Solinus, paint with great energy the general despair of the Egyptians, who with cries and lamentations demanded another Apis from heaven.

According to Plutarch, the term prescribed for the life of Apis was 25 years; which number marked a period of the sun and of the moon, and the bull was consecrated to these two bodies. Syncellus, in his Chronography, when he comes down to the 32d Pharaoh, called *Aseth*, says, "before Aseth, the solar year consisted of 360 days. This prince added five to complete its course. In his reign a calf was placed amongst the gods, and named *Apis*." And in the Bibliotheca of Fabricius we have the following passage: "It was customary to inaugurate the kings of Egypt at Memphis, in the temple of Apis. They were here first initiated in the mysteries, and were religiously invested; after which they were permitted to bear the yoke of the god, through a town to a place called the *Sanctuary*, the entrance of which was prohibited to the profane. There they were obliged to swear that they would neither insert months nor days in the year, and that it should remain composed of 365 days, as had been established by the ancients." From these facts, Mr Savary, in his letters on Egypt, infers, that Apis was the tutelary divinity of the new form given to the solar year, and of the cycle of 25 years, discovered at the same



Apis  
||  
Apobate-  
rion.

same time. This deity, besides, had a marked relation to the swelling of the Nile, as is testified by a great number of historians. The new moon which followed the summer solstice, was the era of this phenomenon, on which the eyes of every body were fixed: And Pliny speaks as follows on this subject: "Apis had on his right side a white mark, representing the crescent: This mark (continues Ælian) indicated the commencement of the inundation." If Apis possessed the characteristic signs which proved his divine origin, he promised fertility and abundance of the fruits of the earth. It seems demonstrated, therefore, Mr Savary adds, that this sacred bull, the guardian of the solar year of 365 days, was also regarded as the genius who presided over the overflowing of the river. The priests by fixing the course of his life to 25 years, and by making the installation of a new Apis concur with the renewal of the period above mentioned, had probably perceived, as the result of long meteorological observations, that this revolution always brought about abundant seasons. Nothing was better calculated to procure a favourable reception of this emblematical deity from the people, since his birth was a presage to them of a happy inundation, and of all the treasures of teeming nature.

The solemnity of his inauguration was called *Apparition*. That which was renewed every year towards the 12th or 13th of the month *Payn*, which corresponds with the 17th or 18th of June, was called *the birth of Apis*. It was a time of rejoicing, which Ælian describes in the following manner: "What festivals! what sacrifices take place in Egypt at the commencement of the inundation! It is then that all the people celebrate the birth of Apis. It would be tedious to describe the dances, the rejoicings, the shows, the banquets, to which the Egyptians abandon themselves on this occasion, and impossible to express the intoxication of joy which breaks forth in all the towns of the kingdom."

These observations Mr Savary thinks further confirmed by the name of this respectable bull; *Apis*, in the Egyptian tongue, signifying number, measure. This epithet perfectly characterizes an animal established as the guardian of the solar year, the type of the cycle of 25 years, and the presage of a favourable inundation.

Monsieur Huet, bishop of Avranches, has endeavoured to prove that Apis was a symbolical image of the patriarch Joseph, and has supported his opinion with all his erudition. Dr Bryant apprehends that the name of *Apis* was an Egyptian term for a father; that it referred to the patriarch Noah; and that the crescent which was usually marked on the side of the animal, was a representation of the ark.

APIS, or *Bee*. See ENTOMOLOGY *Index* and BEE.

APIUM, PARSLEY. See BOTANY *Index*.

APIVOROUS, in *Ornithology*, a synonyme of a species of falco. See FALCO, ORNITHOLOGY *Index*.

APLUDA. See BOTANY *Index*.

APOBATANA, the metropolis of Media, and where the kings kept their treasure (Isidorus Characenus); supposed to be the same with *Ecbatana*.

APOBATERION, in *Antiquity*, a valedictory speech or poem made by a person on departing out of

his own country, and addressed to his friends or relations.

APOBATHRA, a place near Sestos (Strabo); the landing place where Xerxes's ships were frozen and stuck in the ice (Eustathius).

APOCALYPSE, REVELATION, the name of one of the sacred books of the New Testament, containing revelations concerning several important doctrines of Christianity. The word is Greek, and derived from ἀποκαλύπτω, to reveal or discover.

This book, according to Irenæus, was written about the year 96 of Christ, in the island of Patmos, whither St John had been banished by the emperor Domitian. But Sir Isaac Newton places the writing of it earlier, viz. in the time of Nero. Some attribute this book to the arch heretic Cerinthus: but the ancients unanimously ascribed it to John, the son of Zebedee, and brother of James; whom the Greek fathers called the *Divine*, by way of eminence, to distinguish him from the other evangelists. This book has not, at all times, been esteemed canonical. There were many churches in Greece, as St Jerome informs us, which did not receive it; neither is it in the catalogue of canonical books prepared by the council of Laodicea, nor in that of St Cyril of Jerusalem: but Justin, Irenæus, Origen, Cyprian, Clemens of Alexandria, Tertullian, and all the fathers of the fourth, fifth, and the following centuries, quote the Revelation as a book then acknowledged to be canonical. The Alogians, Marcionites, Cerdonians, and Luther himself, rejected this book: but the Protestants have forsaken Luther in this particular; and Beza has strongly maintained against his objections, that the Apocalypse is authentic and canonical.

The Apocalypse consists of twenty-two chapters. The three first are an instruction to the bishops of the seven churches of Asia Minor. The fifteen following chapters contain the persecutions which the church was to suffer from the Jews, heretics, and Roman emperors. Next St John prophesies of the vengeance of God, which he will exercise against those persecutors, against the Roman empire, and the city of Rome; which, as the Protestants suppose, he describes under the name of Babylon the great whore, seated upon seven hills. In the last place, the 19th, 20th, 21st, and 22d chapters, describe the triumph of the church over its enemies, the marriage of the Lamb, and the happiness of the church triumphant.

"It is a part of this prophecy (says Sir Isaac Newton), that it should not be understood before the last age of the world; and therefore it makes for the credit of the prophecy, that it is not yet understood. The folly of interpreters has been to foretel times and things by this prophecy, as if God designed to make them prophets. By this rashness they have not only exposed themselves, but brought the prophecy also into contempt. The design of God was much otherwise: He gave this and the prophecies of the Old Testament, not to gratify men's curiosities, by enabling them to foreknow things; but that, after they were fulfilled, they might be interpreted by the events; and his own providence, not the interpreters, be then manifested thereby to the world. And there is already so much of the prophecy fulfilled, that as many as will take pains

Apobathra,  
Apoca-  
lyptic.



<sup>Apocrypha</sup> pains in this study, may see sufficient instances of God's providence.

There have been several other works published under the title of *Apocalypses*. Sozomen mentions a book used in the churches of Palestine, called the *Apocalypse* or *Revelation of St Peter*. He also mentions an *Apocalypse of St Paul*: which the Coph-tæ retain to this day. Eusebius also speaks of both these *Apocalypses*. St Epiphanius mentions an *Apocalypse of Adam*; Nicephorus, an *Apocalypse of Esdras*: Gratian and Cedreus, an *Apocalypse of Moses*, another of St Thomas, and another of St Stephen; St Jerome, an *Apocalypse of Elias*. Porphyry, in his life of Plotin, makes mention of the *Apocalypse* or *Revelations of Zoroaster, Zostrian, Nicothæus, Allogenes, &c.*

APOCOPE, among *Grammarians*, a figure which cuts off a letter or syllable from the end of a word; as *ingeni* for *ingenii*.

APOCRISARIUS, in *Ecclesiastical Antiquity*, a sort of resident in an imperial city, in the name of a foreign church or bishop, whose office was to negotiate, as proctor at the emperor's court, in all ecclesiastical causes in which his principals might be concerned. The institution of the office seems to have been in the time of Constantine, or not long after, when, the emperors being become Christians, foreign churches had more occasions to promote their suits at court than formerly. However, we find it established by law in the time of Justinian. In imitation of this officer, almost every monastery had its *Apocrisarius*, or resident, in the imperial city.

The title and quality of *Apocrisarius* became at length appropriated to the pope's agent, or *nuncio*, as he is now called; who resided at Constantinople, to receive the pope's despatches, and the emperor's answers. The word is formed from *αποκρισις*, to answer.

APOCRUSTICS, in *Medicine*, the same with repellents.

APOCRYPHA, or APOCRYPHAL BOOKS, such books as are not admitted into the canon of Scripture, being either not acknowledged as divine, or considered as spurious. The word is Greek; and derived from *απο*, and *κρυπτω* to hide or conceal.

When the Jews published their sacred books, they gave the appellations of *canonical* and *divine* only to such as they then made public: such as were still retained in their archives they called *apocryphal*, for no other reason but because they were not public; so that they might be really sacred and divine, though not promulgated as such.

Thus, in respect of the Bible, all books were called *apocryphal* which were not inserted in the Jewish canon of Scripture. Vossius observes, that, with regard to the sacred books, none are to be accounted apocryphal, except such as had neither been admitted into the synagogue nor the church, so as to be added to the canon, and read in public.

The Protestants do not only reckon those books to be apocryphal which are esteemed such in the church of Rome, as the prayer of Manasseh king of Judah, the third and fourth books of Esdras, St Barnabas's epistle, the book of Herinos, the addition at the end of Job, and the 151st psalm; but also Tobit, Judith, Esther, the book of Wisdom, Jesus the son of Sirach,

Baruch the prophet, the Song of the Three Children, the History of Susannah, the History of Bell and the Dragon, and the first and second books of the Maccabees.

It is now pretended that these books were not received by the Jews, or so much as known to them. None of the writers of the New Testament cite or mention them: neither Philo nor Josephus speak of them. The Christian church was for some ages an utter stranger to these books. Origen, Athanasius, Hillary, Cyril of Jerusalem, and all the orthodox writers, who have given catalogues of the canonical books of Scripture; unanimously concur in rejecting these out of the canon. And for the New Testament, they are divided in their opinions, whether the epistle to the Hebrews, the epistle of St James, and the second epistle of St Peter, the second and third epistles of St John, the epistle of St Jude; and the Revelation, are to be acknowledged as canonical or not.

The Protestants acknowledge such books of Scripture only to be canonical as were so esteemed to be in the first ages of the church; such as are cited by the earliest writers among the Christians as of divine authority, and after the most diligent inquiry were received and so judged to be by the council of Laodicea. The several epistles above mentioned, and the book of Revelation, whatever the sentiments of some particular persons are or may have been of them, are allowed by all the reformed churches to be parts of the canon of the New Testament.

The apocryphal books, however, according to the sixth article of the church of England, are to be read for example of life and instruction of manners; but it doth not apply them to establish any doctrine.

APOCYNUM. See BOTANY Index.

APODECTÆ, in *Antiquity*, a denomination given to ten general receivers appointed by the Athenians to receive the public revenues, taxes, debts, and the like. The apodectæ had also a power to decide controversies arising in relation to money and taxes, all but those of the most difficult nature and highest concern, which were referred to the courts of judicature.

APODECTÆI, in the Athenian government, officers appointed to see that the measures of corn were just.

APODES, in a general sense, denotes things without feet. Zoologists apply the name to a fabulous sort of birds, said to be found in some of the islands of the new world, which, being entirely without feet, support themselves on the branches of trees by their crooked bills.

APODES, in the Linnæan system, the name of the first order of fishes, or those which have no belly fins. See ICHTHYOLOGY Index.

APODICTICAL, among *Philosophers*, a term importing a demonstrative proof, or systematical method of teaching.

APODOSIS, in *Rhetoric*, makes the third part of a complete exordium, being properly the application, or restriction of the *protasis*. The apodosis is the same with what is otherwise called *axisis*; and stands opposed to *protasis*: e. g. *protasis*, all branches of history are necessary for a student; *catescene*, so that, without these, he can never make any considerable figure;

Apocrypha

Apocrypha  
Apodosis



Apodyte-  
rium  
||  
Apollina-  
rians.

gure; *apodosis*, but literally history is of a more especial use, which recommends it, &c.

**APODYTERIUM**, in the ancient baths, the apartments where persons dressed and undressed.

**APOGEE**, in *Astronomy*, that point in the orbit of a planet which is at the greatest distance from the earth. The apogee of the sun is that part of the earth's orbit which is at the greatest distance from the sun; and consequently the sun's apogee, and the earth's aphelion, are one and the same point.

**APOLIDES**, in *Antiquity*, those condemned for life to the public works, or exiled into some island, and thus deprived of the privileges of Roman citizens.

**APOLLINARIAN GAMES**, in *Roman Antiquity*, were instituted in the year of Rome 542. The occasion was a kind of oracle delivered by the prophet Marcus after the fatal battle at Cannæ, declaring that to expel the enemy, and cure the people of an infectious disease which then prevailed, sacred games were to be annually performed in honour of Apollo; the prætor to have the direction of them, and the decemviri to offer sacrifices after the Grecian rite. The senate ordered that this oracle should be observed the rather, because another of the same Marcus, wherein he had foretold the overthrow at Cannæ, had come true; for this reason they gave the prætor 12,000 ascs out of the public cash to defray the solemnity. There were sacrificed an ox to Apollo, as also two white goats, and a cow to Latona; all with their horns gilt. Apollo had also a collection made for him, besides what the people who were spectators gave voluntarily. The first prætor by whom they were held was P. Cornelius Sylla. For some time they were moveable or indistinct; but at length were fixed, under P. Licinius Varus, to the fifth of July, and made perpetual. The men, who were spectators at these games, wore garlands on their heads; the women performed their devotions in the temples at the same time, and at last they caroused together in the vestibules of their houses, the doors standing open. The Apollinarian games were merely scenical; and at first only observed with singing, piping, and other sorts of music; but afterwards there were also introduced all manner of mountebank tricks, dances, and the like: yet so as that they still remained scenical, no chariot races, wrestling, or the like laborious exercises of the body, being ever practised at them.

**APOLLINARIANS, APOLLINARISTS**, called also by Epiphanius *Dinarite*, ancient heretics, who denied the proper humanity of Christ, and maintained that the body which he assumed was endowed with a sensitive, and not a rational, soul, but that the Divine Nature supplied the place of the intellectual principle in man. This sect derived its name from Apollinaris, bishop of Laodicea, in the fourth century.

The Apollinarians have been charged with other opinions, such as, the Millenarian and Sabellian, the pre-existence of the body of Christ, and the passion of his Deity; but ecclesiastical writers are not agreed with respect to these and other particulars. Their doctrine was first condemned by a council of Alexandria in the year 362, and afterwards in a more formal manner by a council at Rome in 375; and by another council in 378, which deposed Apollinaris from his bishopric. Notwithstanding all, his doctrine spread through most of the churches of the east: and his followers were sub-

divided into various sects. In 388, the emperor Theodosius enacted a law, forbidding them to hold assemblies, to have any ecclesiastics or bishops, or to dwell in cities. The rigorous execution of this law, in concurrence with the decrees of different councils, reduced them to a very small number, and their doctrine had no long duration.

**APOLLINARIS, CAIUS SULPICIVS**, a very learned grammarian, born at Carthage, lived in the 2d century, under the Antonines; he is supposed to be the author of the verses which are prefixed to the comedies of Terence, and contain the arguments of them. He had for his successor in the profession of grammar Helvius Pertinax, who had been his scholar, and was at last emperor.

**APOLLINARIS SIDONIUS, Caius Lollius**, an eminent Christian writer and bishop in the 5th century, was born of a noble family in France. He was educated under the best masters, and made a prodigious progress in the several arts and sciences, but particularly in poetry and polite literature. After he had left the schools, he applied himself to the profession of war. He married Papiamilla, the daughter of Avitus, who was consul, and afterwards emperor, by whom he had three children. But Majorianus in the year 457 having deprived Avitus of the empire, and taken the city of Lyons, in which our author resided, Apollinaris fell into the hands of the enemy. However the reputation of his learning softened Majorianus's resentment, so that he treated him with the utmost civility, in return for which Apollinaris composed a panegyric in his honour; which was so highly applauded, that he had a statue erected to him at Rome, and was honoured with the title of *Count*. In the year 467 the emperor Anthemius rewarded him for the panegyric which he had written in honour of him, by raising him to the post of governor of Rome, and afterwards to the dignity of a patrician and senator, and erecting a statue to him. But he soon quitted these secular employments for the service of the church. The bishopric of Clermont being vacant in 472 by the death of Eparchus, Apollinaris, who was then only a layman, was chosen to succeed him without any interest or solicitation on his part, in which see he acted with the greatest integrity. Clermont being besieged by the Goths, he animated the people to the defence of that city, and would never consent to the surrender of it; so that, when it was taken about the year 480, he was obliged to retire; but he was soon restored by Evariges king of the Goths, and continued to govern the church as he had done before. He died in peace the 21st of August 487; and his festival is still observed in the church of Clermont, where his memory is held in great veneration. He is esteemed the most elegant writer of his age, both in prose and verse. He wrote a great many little pieces; but preserved none but those which he thought were worthy of being continued down to posterity. He collected himself the nine books which we have remaining of his letters. His chief pieces in poetry are the three panegyrics upon the emperors Avitus, Majorianus, and Anthemius. The rest of them are a collection of poems addressed to his friends upon particular subjects. His letters contain a variety of particulars relating to polite literature and profane history.

APOLLINARIUS,

Apollinaris  
||  
Apollina-  
rians.



Apollinari-  
us,  
Apollo.

APOLLINARIUS, CLAUDIUS, a learned bishop of Hierapolis, who, about the year 170, presented to Marcus Aurelius an excellent Apology for the Christians.

APOLLINARIUS THE YOUNGER, thus called to distinguish him from his father, called *Apollinarius the Elder*, was at first lector or reader of Laodicea, and afterwards bishop of that city. He was universally esteemed the greatest man of his age, both for learning and piety, and a most accurate and nervous defender of the faith against all its enemies: but notwithstanding this, on his advancing some opinions that were not approved, he was anathematized as an heretic by the second general council of Constantinople in 381.

APOLLO, in *Mythology*, a Pagan deity worshipped by the Greeks and Romans. Cicero mentions four of this name: the most ancient of whom was the son of Vulcan; the second a son of Corybas, and born in Crete; the third an Arcadian, called *Nomian*, from his being a great legislator; and the last, to whom the greatest honour is ascribed, the son of Jupiter and Latona.

Apollo had a variety of other names, either derived from his principal attributes, or the chief places where he was worshipped. He was called the *Healer*, from his enlivening warmth and cheering influence; *Pæon*, from the pestilential heats: to signify the former, the ancients placed the Graces in his right hand; and for the latter, a bow and arrows in his left: *Nomius*, or the shepherd, from his fertilizing the earth, and thence sustaining the animal creation: *Delius*, from his rendering all things manifest: *Pythius*, from his victory over Python; *Lycias*, *Phæbus*, and *Phaneta*, from his purity and splendour. As Apollo is almost always confounded by the Greeks with the sun, it is no wonder that he should be dignified with so many attributes. It was natural for the most glorious object in nature, whose influence is felt by all creation, and seen by every animated part of it, to be adored as the fountain of light, heat, and life. The power of healing diseases being chiefly given by the ancients to medicinal plants and vegetable productions, it was natural to exalt into a divinity the visible cause of their growth. Hence he was also styled the *God of Physic*; and that external heat which cheers and invigorates all nature, being transferred from the human body to the mind, gave rise to the idea of all mental effervescence coming from this god; hence, likewise, poets, prophets, and musicians, are said to be *Numine afflati*, inspired by Apollo.

Whether Apollo was ever a real personage, or only the great luminary, many have doubted. Indeed, Vossius has taken great pains to prove this god to be only a metaphorical being, and that there never was any other Apollo than the sun." "He was styled the *Son of Jupiter* (says this author), because that god was reckoned by the ancients the author of the world. His another was called *Latona*, a name which signifies *hidden*; because, before the sun was created, all things were wrapped up in the obscurity of chaos. He is always represented as beardless and youthful, because the sun never grows old or decays. And what else can his bow and arrows imply, but his piercing beams?" And adds, "that all the ceremonies which were performed to his honour, had a manifest relation to the

Vol. II. Part II.

great source of light which he represented. Whence (he concludes) it is in vain to seek for any other divinity than the sun, which was adored under the name of Apollo." However, though this be in general true, yet it does appear, from many passages in ancient authors, that there was some illustrious personage named *Apollo*, who, after his apotheosis, was taken for the sun; as Osiris and Orus in Egypt, whose existence cannot be called in question, were, after their death, confounded with the sun, of which they became the symbols, either from the glory and splendour of their reigns, or from a belief that their souls had taken up their residence in that luminary.

Of the four Apollos mentioned by Cicero, it appears that the three last were Greeks, and the first an Egyptian; who, according to Herodotus, was the son of Osiris and Isis, and called *Orus*. Pausanias is of the same opinion as Herodotus, and ranks Apollo among the Egyptian divinities. The testimony of Diodorus Siculus is still more express; for in speaking of Isis, after saying that she had invented the practice of medicine, he adds, that she taught this art to her son Orus, named *Apollo*, who was the last of the gods that reigned in Egypt.

It is easy to trace almost all the Grecian fables and mythologies from Egypt. If the Apollo of the Greeks was said to be the son of Jupiter, it was because Orus the Apollo of the Egyptians had Osiris for his father, whom the Greeks confounded with Jupiter. If the Greek Apollo was reckoned the god of eloquence, music, medicine, and poetry, the reason was, that Osiris, who was the symbol of the sun among the Egyptians, as well as his son Orus, had there taught those liberal arts. If the Greek Apollo was the god and conductor of the Muses, it was because Osiris carried with him in his expedition to the Indies singing women and musicians. This parallel might be carried on still further; but enough has been said to prove that the true Apollo was that of Egypt.

To the other perfections of this divinity the poets have added beauty, grace, and the art of captivating the ear and the heart, no less by the sweetness of his eloquence, than by the melodious sounds of his lyre. However, with all these accomplishments, he had not the talent of captivating the fair, with whose charms he was enamoured. But the amours and other adventures related of this god during his residence on earth, are too numerous, and too well known, to be inserted here. His musical contests, however, being more connected with the nature of this work, must not be wholly unnoticed.

To begin, therefore, with the dispute which he had with Pan, that was left to the arbitration of Midas.

Pan, who thought he excelled in playing the flute, offered to prove that it was an instrument superior to the lyre of Apollo. The challenge was accepted; and Midas, who was appointed the umpire in this contest, deciding in favour of Pan, was rewarded by Apollo, according to the poets, with the ears of an ass for his stupidity.—This fiction seems founded upon history. Midas, according to Pausanias, was the son of Gordius and Cybele; and reigned in the Greater Phrygia, as we learn from Strabo. He was possessed of such great riches, and such an inordinate desire of increasing them by the most contemptible parsimony,

3 N

that,

Apoll'o.



Apollo.

that, according to the poets, he converted whatever he touched into gold. However, his talent for accumulation did not extend to the acquirement of taste and knowledge in the fine arts; and, perhaps, his dulness and inattention to these provoked some musical poets to invent the fable of his decision in favour of Pan against Apollo. The scholiast upon Aristophanes, to explain the fiction of his long ears, says, that it was designed to intimate that he kept spies in all parts of his dominions.

Marfyas, another player on the flute, was still more unfortunate than either Pan or his admirer Midas. This Marfyas, having engaged in a musical dispute with Apollo, chose the people of Nisa for judges. Apollo played at first a simple air upon his instrument; but Marfyas, taking up his pipe, struck the audience so much by the novelty of its tone, and the art of his performance, that he seemed to be heard with more pleasure than his rival. Having agreed upon a second trial of skill, it is said that the performance of Apollo, by accompanying the lyre with his voice, was allowed greatly to excel that of Marfyas upon the flute alone. Marfyas, with indignation, protested against the decision of his judges; urging that he had not been fairly vanquished according to the rules stipulated, because the dispute was concerning the excellence of their several instruments, not their voices; and that it was wholly unjust to employ two arts against one.

Apollo denied that he had taken any unfair advantages of his antagonist, since Marfyas had employed both his mouth and fingers in performing upon his instrument; so that, if he was denied the use of his mouth, he would be still more disqualified for the contention. The judges approved of Apollo's reasoning, and ordered a third trial. Marfyas was again vanquished; and Apollo, inflamed by the violence of the dispute, slew him alive for his presumption. See **MARFYNAS**.

Pausanias relates a circumstance concerning this contest, that had been omitted by Diodorus, which is, that Apollo accepted the challenge from Marfyas, upon condition that the victor should use the vanquished as he pleased.

Diodorus informs us, that Apollo soon repenting of the cruelty with which he had treated Marfyas, broke the strings of the lyre, and by that means put a stop, for a time, to any farther progress in the practice of that new instrument.

The next incident to be mentioned in the history of Apollo is his defeat of the serpent Python.

The waters of Deucalion's deluge, says Ovid, which had overflowed the earth, left a slime from whence sprung innumerable monsters; and among others the serpent Python, which made great havock in the country about Parnassus. Apollo, armed with his darts, put him to death; which physically explained, implies, that the heat of the sun having dissipated the noxious steams, these monsters soon disappeared: or if this fable be referred to history, the serpent was a robber, who haunting the country about Delphos, and very much infesting those who came thither to sacrifice; a prince, who bore the name of Apollo, or one of the priests of that god, put him to death.

This event gave rise to the institution of the Pythian games, so frequently mentioned in the Grecian histo-

ry; and it was from the legend of Apollo's victory over the Python that the god himself acquired the name of *Pythius*, and his priestess that of **ΠΥΘΙΑ**. The city of Delphos, where the famous oracles were so long delivered, was frequently styled *Pytho*.

As Apollo was the god of the fine arts, those who cultivated them were called *his sons*. Of this number was Philammon of Delphos, whom the poets and mythologists make the twin-brother of Autolychus, by the nymph Chione, and Apollo and Mercury. It is pretended that both these divinities were favoured by the nymph on the same day, and that their fires were known from their different talents. Philammon, a great poet and musician, was reported to be the offspring of the god who presides over those arts; and Autolychus, from the craftiness and subtlety of his disposition, was said to have sprung from Mercury, god of theft and fraud. Philammon is one of the first, after Apollo, upon fabulous record, as a vocal performer, who accompanied himself with the sound of the lyre: his son was the celebrated *Thamyris*. See **THAMYRIS**.

There can be no doubt but that Apollo was more generally revered in the Pagan world than any other deity; having, in almost every region of it, temples, oracles, and festivals, as innumerable as his attributes: the wolf and hawk were consecrated to him, as symbols of his piercing eyes; the crow and the raven, because these birds were supposed to have by instinct the faculty of prediction; the laurel, from a persuasion that those who slept with some branches of that tree under their heads received certain vapours, which enabled them to prophecy. The cock was consecrated to him, because by his crowing he announces the rising of the sun; and the grasshopper on account of his singing faculty, which was supposed to do honour to the god of music. Most of the ancient poets have celebrated this tuneful insect, but none better than *Anacreon*, Ode xliii.

Plato says that the grasshopper sings all summer without food, like those men who, dedicating themselves to the Muses, forget the common concerns of life.

The swan was regarded by the ancients as a bird sacred to Apollo in two capacities; first, as being, like the crow and raven, gifted with the spirit of prediction; and, secondly, for his extraordinary vocal powers. The sweetness of his song, especially at the approach of death, was not only extolled by all the poets of antiquity, but by historians, philosophers, and sages; and to call a great writer the *swan* of his age and nation, was a full acknowledgment of his sovereignty. Thus Horace calls Pindar *the Theban swan*.

Plutarch, who was himself a priest of Apollo, impressed with the highest respect and veneration for him and for music, in his dialogue upon that art, makes one of his interlocutors say, that an invention so useful and charming could never have been the work of man, but must have originated from some god, such as Apollo, the inventor of the flute and lyre, improperly attributed to Hyagnis, Marfyas, Olympus, and others; and the proofs he urges in support of this assertion, show, if not its truth, at least that it was the common and received opinion.

All dances and sacrifices, says he, used in honour of  
Apollo,

Apollo.



Apollo.

Apollo, are performed to the sound of flutes: the statue of this god at Delos, erected in the time of Hercules, had in its right hand a bow; and on the left stood the three Graces, who were furnished with three kinds of instruments; the lyre, the flute, and the syrinx. The youth also who carries the laurel of Tempe to Delphos, is accompanied by one playing on the flute; and the sacred presents formerly sent to Delos by the Hyperboreans, were conducted thither to the sound of lyres, flutes, and shepherd's pipes. He supports these facts by the testimonies of the poets Alcæus, Alcman, and Corinna.

It seems as if the account of Apollo could not be concluded by any thing that is left to offer on the subject, so properly, as by part of the celebrated hymn of Callimachus, which during many ages was performed and heard by the most polished people on the globe with the utmost religious zeal, at the festivals instituted to this god.

Ha! how the laurel, great APOLLO's tree,  
And all the cavern, shakes! Far off, far off,  
The man that is unhallow'd: for the god  
Approaches. Hark! he knocks; the gates  
Feel the glad impulse, and the sever'd bars  
Submissive clink against their brazen portals.  
Why do the Delian palms incline their boughs,  
Self-mov'd; and hovering swans, their throats releas'd  
From native silence, carol sounds harmonious?

Begin, young men, the hymn: let all your harps  
Break their inglorious silence; and the dance,  
In mystic numbers trod, explain the music.  
But first, by ardent pray'r and clear lustration,  
Purge the contagious spots of human weakness:  
Impure, no mortal can behold Apollo.  
So may you flourish, favour'd by the god,  
In youth with happy nuptials, and in age  
With silver hairs, and fair descent of children;  
So lay foundations for aspiring cities,  
And bless your spreading colonies increase.

Pay sacred rev'rence to Apollo's song;  
Lest wrathful the far-shooting god emit  
His fatal arrows. Silent nature stands:  
And seas subside, obedient to the sound  
Of Io! Io Pæan! nor dares Thetis  
Longer bewail her lov'd Achilles' death.  
For Phœbus was his foe. Nor must sad Niobe  
In fruitless sorrow persevere, or weep,  
Even thro' the Phrygian marble. Hapless mother!  
Whose fondness could compare her mortal offspring  
To those which fair Latona bore to Jove.  
Io! again repeat ye, Io Pæan!

Recite Apollo's praise till night draws on,  
The ditty still unfinish'd; and the day  
Unequal to the godhead's attributes  
Various, and matter copious of your songs.

Sublime at Jove's right hand Apollo sits,  
And thence distributes honour, gracious king,  
And theme of verse perpetual. From his robe  
Flows light ineffable! his harp, his quiver,  
And Lactian bow, are gold: with golden sandals  
His feet are shod. How rich! how beautiful!  
Beneath his steps the yellow min'ral rises;  
And earth reveals her treasures. Youth and beauty

Eternal deck his cheek: from his fair head  
Perfumes distil their sweets; and cheerful health,  
His duteous handmaid, through the air improv'd  
With lavish hand diffuses scents ambrosial.

The spearman's arm by thee, great god, directed,  
Sends forth a certain wound. The laurel'd bard,  
Inspir'd by thee, composes verse immortal.  
Taught by thy art divine, the sage physician  
Eludes the urn, and chains or exiles death.

Perpetual fires shine hallow'd on thy altars,  
When annual the Carnean feast is held;  
The warlike Libyans, clad in armour, lead  
The dance; with clanging swords and shields they beat  
The dreadful measure: In the chorus join  
Their women; brown, but beautiful: such rites  
To thee well pleasing

The monstrous Python  
Durst tempt thy wrath in vain; for dead he fell,  
To thy great strength and golden arms unequal.  
Io! while thy unerring hand elanc'd  
Another and another dart, the people  
Joyfully repeated Io! Io Pæan!  
Elance the dart, Apollo; for the safety  
And health of man, gracious thy mother bore thee!

PRIOR.

*APOLLO Belvidere*, one in the first class of the ancient statues. The excellence of this statue consists in the expression of something divine, whereas the rest excel only in things that are common to men. This statue may perhaps justly enough claim the preference, even in the superior and distinguished class of the best remains of all antiquity. There are about twenty ancient statues which the moderns have discovered that are referred to the first class, and considered each as the chief beauty in its kind.

APOLLODORUS, a famous architect under Trajan and Hadrian, was born at Damascus. He had the direction of the bridge of stone which Trajan ordered to be built over the Danube in the year 104, which was esteemed the most magnificent of all the works of that emperor. Hadrian, one day as Trajan was discoursing with this architect upon the buildings he had raised at Rome, would needs give his judgment, and showed he understood nothing of the matter. Apollodorus turned upon him bluntly, and said to him. Go paint citruls, for you are very ignorant of the subject we are talking upon. Hadrian at this time boasted of his painting citruls well. This insult cost Apollodorus his life.

APOLLODORUS, a celebrated painter of Athens, about 408 years before the birth of Christ, was the first who invented the art of mingling colours, and of expressing the lights and shades. He was admired also for his judicious choice of subjects, and for beauty and strength of colouring surpassed all the masters that went before him. He excelled likewise in statuary.

APOLLODORUS the Athenian, a famous grammarian, the son of Asclepiades and disciple of Aristarchus. He wrote many works not now extant: but his most famous production was his *Bibliotheca*, concerning the origin of the gods. This work consisted of 24 books, but only three are now in being. Several other pieces of his are to be found in Fabricius's *Bibliotheca Græca*. There were various other persons of this name. Sci-

Apollo,  
Apollodor.  
rus.



Apollonia,  
Apollonius.

pio Tefi, a Neapolitan, has written a treatise of the Apollodoruses, which was printed at Rome in 1555; and Dr Thomas Gale published a work of the same kind in 1675.

APOLLONIA, the name of several ancient cities, particularly of a colony of the Milesians in Thrace, from which Lucullus took away a colossus of Apollo, and placed it in the capitol. The greatest part of the town was situated in a small island on the Euxine, in which was a temple of Apollo (Strabo). Pliny says the colossus was 30 cubits high, and cost 500 talents. There was also an Apollonia at Mount Parnassus, near Delphi (Stephanus). Troezen was formerly called *Apollonia*.

APOLLONIA, feasts sacred to Apollo, instituted upon the following occasion. Apollo, having vanquished Python, went with his sister Diana to Ægialea; but, being driven from thence, he removed to the island Crete. The Ægialeans were soon after visited with a plague; upon which, consulting the soothsayers, they were ordered to send seven young men and as many virgins, to appease those deities and bring them back into their country. Apollo and Diana being thus appeased, returned to Ægialea; in memory of which, they dedicated a temple to Pitho, the *goddess of persuasion*; whence a custom arose of choosing every year seven young men, and as many virgins, to go as it were in search of Apollo and Diana.

APOLLONIA, in *Geography*, a promontory of Africa, upon the coast of Guinea, near the mouth of the river Mancu.

APOLLONIUS, the author of the *Argonautics*, and furnished *The Rhodian*, from the place of his residence, is supposed to have been a native of Alexandria, where he is said to have recited some portion of his poem while he was yet a youth. Finding it ill received by his countrymen, he retired to Rhodes; where he is conjectured to have polished and completed his work, supporting himself by the profession of rhetoric, and receiving from the Rhodians the freedom of their city. He at length returned, with considerable honour, to the place of his birth; succeeding Eratosthenes in the care of the Alexandrian library in the reign of Ptolemy Euergetes, who ascended the throne of Egypt in the year before Christ 246. That prince had been educated by the famous Aristarchus, and rivalled the preceding sovereigns of his liberal family in the munificent encouragement of learning. Apollonius was a disciple of the poet Callimachus; but their connexion ended in the most violent enmity, which was probably owing to some degree of contempt expressed by Apollonius for the light compositions of his master. The learned have vainly endeavoured to discover the particulars of their quarrel.—The only work of Apollonius which has descended to modern times is his poem above mentioned, in four books, on the Argonautic expedition. Both Longinus and Quintilian have assigned to this work the mortifying character of mediocrity: “But (says Mr Hayley) there lies an appeal from the sentence of the most candid and enlightened critics to the voice of Nature; and the merit of Apollonius has little to apprehend from the decision of this ultimate judge. His poems abound in animated description, and in passages of the most tender and pathetic beauty. How finely painted is the first setting

forth of the Argo! and how beautifully is the wife of Chiron introduced, holding up the little Achilles in her arms, and showing him to his father Peleus as he failed along the shore! But the chief excellence in our poet, is the spirit and delicacy with which he has delineated the passion of love in his Medea. That Virgil thought very highly of his merit in this particular, is sufficiently evident from the minute exactness with which he has copied many tender touches of the Grecian poet. Those who compare the third book of Apollonius with the fourth of Virgil, may, I think, perceive not only that Dido has some features of Medea, but that the two bards, however different in their reputation, resembled each other in their genius; and they both excel in delicacy and pathos.”—The ancient scholia upon his *Argonautics*, still extant, are extremely useful, and full of learning.

APOLLONIUS of Perga, a city of Pamphylia, was a great geometrician, under the reign of Ptolemy Euergetes, which reaches from the 2d year of the 133d Olympiad to the 3d year of the 139th. He studied a long time at Alexandria, under the disciples of Euclid; and composed several works, of which that only of the Conics remains.

APOLLONIUS, a Pythagorean philosopher, born at Tyana in Cappadocia, about the beginning of the first century. At 16 years of age he became a strict observer of Pythagoras's rules, renouncing wine, women, and all sorts of flesh; not wearing shoes, letting his hair grow, and wearing nothing but linen. He soon after set up for a reformer of mankind, and chose his habitation in a temple of Æsculapius, where he is said to have performed many wonderful cures. Philostratus has wrote the life of Apollonius, in which there are numberless fabulous stories recounted of him. We are told that he went five years without speaking; and yet, during this time, that he stopped many seditions in Cilicia and Pamphylia: that he travelled, and set up for a legislator; and that he gave out he understood all languages, without having ever learned them: that he could tell the thoughts of men, and understood the oracles which birds gave by their singing. The Heathens were fond of opposing the pretended miracles of this man to those of our Saviour; and by a treatise which Eusebius wrote against one Hierocles, we find that the drift of the latter, in the treatise which Eusebius refutes, seems to have been to draw a parallel betwixt Jesus Christ and Apollonius, in which he gives the preference to this philosopher. M. du Pin has wrote a confutation of Philostratus's life of Apollonius.

Apollonius wrote some works, viz. four books of judicial astrology; a treatise upon the sacrifices, showing what was proper to be offered to each deity; and a great number of letters; all of which are now lost.

APOLLOS, in *Scripture History*, a Jew of Alexandria, who came to Ephesus during the absence of St Paul, who was gone to Jerusalem (Acts xviii. 24.) Apollos was an eloquent man, and well versed in the Scriptures; and as he spoke with zeal and fervour, he taught diligently the things of God: but knowing only the baptism of John, he was no more than a catechumen, or one of the lowest order of Christians, and did not as yet distinctly know the mysteries of the Christian doctrine. However, he knew that Jesus Christ

Apollonius,  
Apellos.



Apollos  
||  
Apologue.

Christ was the Messiah, and declared himself openly to be his disciple. When therefore he was come to Ephesus, he began to speak boldly in the synagogue, and to show that Jesus was the Christ. Aquila and Priscilla having heard him, took him home with them; instructed him more fully in the ways of God; and baptized him, probably in the name of Jesus Christ.

Some time after this he had a mind to go into Achaia; and the brethren having exhorted him to undertake this journey, they wrote to the disciples, desiring them to receive him. He arrived at Corinth; and was there very useful in convincing the Jews out of the Scriptures, and demonstrated to them that Jesus was the Christ. Thus he watered what St Paul had planted in this city (1 Cor. iii. 6.) but the great fondness which his disciples had for his person had like to have produced a schism; some "saying, I am of Paul; others, I am of Apollos; I am of Cephas." However, this division which St Paul speaks of in the chapter last quoted, did not prevent that apostle and Apollos from being closely united by the bands of charity. Apollos hearing that the apostle was at Ephesus, went to meet him, and was there when St Paul wrote the first epistle to the Corinthians; wherein he testifies that he had earnestly entreated Apollos to return to Corinth, but hitherto had not been able to prevail with him; that, nevertheless, he gave him room to hope that he would go when he had an opportunity. St Jerome says, that Apollos was so dissatisfied with the division which had happened upon his account at Corinth, that he retired into Crete with Zena, a doctor of the law; and that this disturbance having been appeased by the letter which St Paul wrote to the Corinthians, Apollos returned to this city, and was bishop thereof. The Greeks make him bishop of Duras; others say, he was bishop of Iconium in Phrygia; and others, that he was bishop of Cæsarea.

APOLLYON, a Greek word that signifies *the destroyer*, and answers to the Hebrew *Abaddon*. St John in the Revelation (ix. 11.) says, that an angel having opened the bottomless pit, a thick smoke issued out of it; and with this smoke locusts, like horses, prepared for battle, and commanded by the angel of the bottomless pit, called in Hebrew *Abaddon*, but in the Greek *Apollyon*.

APOLOGETIC, APOLOGETICAL, something said or written, by way of excuse or apology, for any action or person.

The Apologetic of Tertullian is a work full of strength and spirit. He there vindicates the Christians from all that had been objected to them; particularly from the abominable crimes said to be perpetrated at their meetings, and their want of love and fidelity to their country. The ground of this last accusation was, their refusing to take the accustomed oaths, and swear by the tutelar gods of the empire.—Tertullian addresses his Apologetic to the magistrates of Rome, the emperor Severus being then absent.

APOLOGUE, in matters of literature, an ingenious method of conveying instruction by means of a feigned relation called a *moral fable*.

The only difference between a parable and an apologue is, that the former, being drawn from what passes among mankind, requires probability in the narration; whereas the apologue, being taken from the sup-

posed actions of brutes, or even of things inanimate, is not tied down to the strict rules of probability. Æsop's fables are a model of this kind of writing.

APOLOGY, a Greek term, literally importing an excuse or defence of some person or action.

APOMELI, among *Ancient Physicians*, a decoction of honey and vinegar, much used as a detergent, promoter of stool, urine, &c.

APOMYOS DEUS (*απο*, and *μυια*, *fly*), in the Heathen mythology, a name under which Jupiter was worshipped at Elis, and Hercules as well as Jupiter at the Olympic games. These deities were supplicated under this name, to destroy or drive away the vast number of flies which always attended at the great sacrifices; and in those which accompanied the Olympic games, the first was always to the Apomyos, or Myiagrus Deus, that he might drive away the flies from the rest. The usual sacrifice was a bull.

APONEUROSIS, among *Physicians*, a term sometimes used to denote the expansion of a nerve or tendon in the manner of a membrane; sometimes for the cutting off a nerve; and, finally, for the tendon itself.

APONO, PETER D', one of the most famous philosophers and physicians of his age, born in the year 1250, in a village about four miles from Padua. He studied some time at Paris, and was there promoted to the degree of doctor in philosophy and physic. When he came to practise as a physician, he is said to have insisted on very large fums for his visits: we are not told what he demanded for the visits he made in the place of his residence; but it is affirmed, that he would not attend the sick in any other place under 150 florins a-day; and when he was sent for by Pope Honorius IV. he demanded 400 ducats for each day's attendance. He was suspected of magic, and prosecuted by the Inquisition on that account. "The common opinion of almost all authors (says Naude) is, that he was the greatest magician of his age; that he had acquired the knowledge of the seven liberal arts, by means of the seven familiar spirits, which he kept enclosed in a crystal; and that he had the dexterity to make the money he had spent come back into his purse." The same author adds, that he died before the process against him was finished, being then in the 80th year of his age; and that, after his death, they ordered him to be burnt in effigy, in the public place of the city of Padua; designing thereby to strike a fear into others of incurring the like punishment, and to suppress the reading three books which he had wrote; the first being the *Heptameron*, which is printed at the end of the first volume of Agrippa's work; the second, that which is called by Trithemius, *Elucidareum necromanticum Petri de Albano*; and the last, that which is entitled by the same author, *Liber experimentorum mirabilium de annulis secundum xxxviii. mansiones lune*. His body being secretly taken up by his friends, escaped the vigilance of the inquisitors, who would have burnt it. It was removed several times, and was at last placed in the church of St Augustin, without an epitaph or any mark of honour. The most remarkable book which Apono wrote, was that which procured him the surname of *Conciliator*; he wrote also a piece entitled *De medicina omnimoda*. There is a story told of him, that, having no well in his house, he caused his neighbour's to be carried into the street by devils, when

Apology  
||  
Apono.



Aporogon  
Aporia

when he heard they had forbidden his maid fetching water thence. He had much better (says Mr Bayle) have employed the devils to make a well in his own house, and have stopped up his neighbour's; or, at least, transported it into his house, rather than into the street.

APONOGETON. See BOTANY Index.  
APONUS, a hamlet near Patavium, with warm baths. It was the birth-place of Livy, (Martial); and is now called *Albano*. E. Long, 10. N. Lat. 45. 15.

APOEMPTIC, in the ancient poetry, a hymn addressed to a stranger on his departure from a place to his own country. The ancients had certain holidays, wherein they took leave of the gods with *apopemptic* songs, as supposing them returning each to his own country. The deities having the patronage of divers places, it was but just to divide their presents, and allow some time to each. Hence it was, that among the Delians and Milesians we find seals of Apollo, and among the Argians seals of Diana, called *Epidemie*, as supposing these deities then more peculiarly resident among them. On the last day of the feast they dismissed them, following them to the altars with *apopemptic* hymns.

APOPHASIS, a figure in *Rhetoric*, by which the orator, speaking ironically, seems to wave what he would plainly insinuate: as, *Neither will I mention those things; which, if I should, you notwithstanding could neither confute, nor speak against them.*

APOPHLEGMATIZANT'S, in *Pharmacy*, medicines proper to clear the head from superfluous phlegm, whether by spitting or by the nose.

APOPHTHEGM, a short, sententious, and instructive remark, pronounced by a person of distinguished character. Such is that of Cyrus: *He is unworthy to be a magistrate, who is not better than his subjects.* Or this: *He that will not take care of his own business, will be forced to take care of that of others.* Or that of Artaxerxes Mnemon, when reduced to hunger by the loss of his baggage: *How much pleasure have I hitherto lived a stranger to?* Or that of Cato, *Hominis nihil agendo discunt male agere.* Or, finally, that of Augustus, *Festina lentè.* The apophthegms of Plutarch are well known.

APOPHYGE, in *Architecture*, a concave part or ring of a column, lying above or below the flat member. The French call it *le conge d'en bas*, or *d'en haut*: the Italians, *cavo di basso*, or *di sopra*; and also *il vivo di basso*. The apophyge originally was no more than the ring, or ferril, at first fixed on the extremities of wooden pillars, to keep them from splitting; which afterwards was imitated in stone.

APOPHYSIS, in *Anatomy*, a process or protuberance of a bone. See ANATOMY.

APOPLEXY, a distemper in which the patient is suddenly deprived of all his senses, and of voluntary motion. See MEDICINE Index.

APORIA, is a figure in *Rhetoric*, by which the speaker shows, that he doubts where to begin for the multitude of matter, or what to say in some strange and ambiguous thing; and doth, as it were, argue the case with himself. Thus Cicero says, *Whether he took them from his fellows more impudently, gave them to a barlot more lasciviously, removed them from the Roman people*

more wickedly, or altered them more presumptuously, I cannot well declare.

Aporon  
Apostasy

APORON, or ΑΠΟΡΙΜΕ, a problem difficult to resolve, and which has never been resolved, though it be not, in itself, impossible.

The word is derived from *απορος*, which signifies something very difficult, and impracticable; being formed from the privative *α*, and *πορος*, passage. Such we conceive the quadrature of the circle; the duplicature of the cube; the trisection of an angle, &c. When a question was proposed to any of the Greek philosophers, especially of the sect of Academics; if he could not give a solution, his answer was *Απορος*, *I cannot see through it.*—This word is also used by some law writers for an inexplicable speech or discourse.

APOSIOPESES, in *Rhetoric*, otherwise called *reticency*, and *suppression*; a figure, by which a person really speaks of a thing, at the same time that he makes a show as if he would say nothing of it. The word comes from *αποσιωπησις*, *I am silent.*—It is commonly used to denote the same with *ELLIPSIS*. Jul. Scaliger distinguishes them. The latter, according to him, being only the suppression of a word; as, *me, me; adsum qui feci*; the former, the omitting to relate some part of the action; as,

*Dixerat, atque illam media inter talia ferro  
Collapsem adspiciunt*

where the poet does not mention how Dido killed herself.—This figure is of use to keep up the grandeur and sublimity of a discourse.

APOSPHRAGISMA, (from *απος*, and *σφραγισμα*, *I seal*), in *Antiquity*, the figure or impression of a seal.—It was forbid among the ancients to have the figure or image of God on their rings and seals. To this purpose the precept of Pythagoras, *Εν δακτυλῳ εικονα θεου μη περιφερειν!* But in process of time, this was little regarded; it was usual enough to have the figures of Egyptian and other deities, as well as of heroes, monsters, friends, ancestors, and even brutes, on their *dactyls*, or ring-seals. Thus Cæsar had the image of Venus, Pollio of Alexander, Augustus of the *Sphinx*, Pompey of a frog, Lentulus of his grandfather, &c.

APOSTASIS, in *Medicine*, the same with *abscès*.  
APOSTASY, the abandoning the true religion. The primitive Christian church distinguished several kinds of apostasy. The first, of those who went over entirely from Christianity to Judaism; the second, of those who mingled Judaism and Christianity together; and the third, of those who complied so far with the Jews, as to communicate with them in many of their unlawful practices, without making a formal profession of their religion. But the fourth sort was of those who, after having been some time Christians, voluntarily relapsed into Paganism.

The perversion of a Christian to Judaism, Paganism, or other false religion, was punished by the emperors Constantius and Julian with confiscation of goods; to which the emperors Theodosius and Valentinian added capital punishment, in case the apostate endeavoured to revert others to the same iniquity: A punishment too severe for any temporal laws to inflict; and yet the zeal of our ancestors imported it into this country; for we find by Baetson, that in his time apostates were to



Apostasy  
|  
Apostle.

be burnt to death. Doubtless the preservation of Christianity, as a national religion, is, abstracted from its own intrinsic truth, of the utmost consequence to the civil state: which a single instance will sufficiently demonstrate. The belief of a future state of rewards and punishments, the entertaining just ideas of the moral attributes of the supreme Being, and a firm persuasion that he superintends and will finally compensate every action in human life (all which are clearly revealed in the doctrines, and forcibly inculcated by the precepts, of our Saviour Christ), these are the grand foundation of all judicial oaths: which call God to witness the truth of those facts, which perhaps may be only known to him and the party attesting: all moral evidence therefore, all confidence in human veracity, must be weakened by apostasy, and overthrown by total infidelity. Wherefore all affronts to Christianity, or endeavours to depreciate its efficacy, in those who have once professed it, are highly deserving of censure. But yet the loss of life is a heavier penalty than the offence, taken in a civil light, deserves; and, taken in a spiritual light, our laws have no jurisdiction over it. This punishment, therefore, has long ago become obsolete; and the offence of apostasy was for a long time the object only of the ecclesiastical courts, which corrected the offender *pro salute anime*. But about the close of the last century, the civil liberties to which we were then restored being used as a cloak of maliciousness, and the most horrid doctrine subversive of all religion being publicly avowed both in discourse and writings, it was thought necessary again for the civil power to interpose, by not admitting those miscreants to the privileges of society, who maintained such principles as destroyed all moral obligation. To this end it was enacted, by statute 9 and 10 William III. c. 32. That if any person educated in, or having made profession of, the Christian religion, shall by writing, printing, teaching, or advised speaking, deny the Christian religion to be true, or the holy Scriptures to be of divine authority, he shall upon the first offence be rendered incapable to hold any office or place of trust; and, for the second, be rendered incapable of bringing any action, or of being guardian, executor, legatee, or purchaser of lands, and shall suffer three years imprisonment without bail. To give room, however, for repentance, if, within four months after the first conviction, the delinquent will in open court publicly renounce his error, he is discharged for that once from all disabilities.

APOSTATA CAPIENDO, in the *English Law*, a writ that formerly lay against a person who, having entered into some order of religion, broke out again, and wandered up and down the country.

APOSTATE, one who deserts his religion. Among the Romanists, it signifies a man who, without a legal dispensation, forsakes a religious order of which he had made profession.

A POSTERIORI, or demonstration *à posteriori*. See DEMONSTRATION.

APOSTIL, in matters of *Literature*, the same with a marginal note.

APOSTLE properly signifies a messenger or person sent by another upon some business; and hence, by way of eminence, denotes one of the disciples commissioned by Jesus Christ to preach the gospel.

Our blessed Lord selected twelve out of the number of his disciples to be invested with the apostleship. Their names were Simon Peter, Andrew, James the greater, John, Philip, Bartholomew, Thomas, Matthew, James the less, Jude surnamed Lebbeus or Thaddeus, Simon the Canaanite, and Judas Iscariot. Of these Simon, Andrew, James the greater, and John, were fishermen; and Matthew a publican, or receiver of the public revenues: of what profession the rest were, we are not told in Scripture; though it is probable they were fishermen.

There are various conjectures as to the reason of our Saviour's making choice of twelve apostles. The most probable is, that it might be in allusion to the twelve patriarchs, as the founders of their several tribes; or to the twelve chief heads or rulers of those tribes, of which the body of the Jewish nation consisted. This opinion seems to be countenanced by what our Saviour tells his apostles, that "when the Son of man shall sit on the throne of his glory, they also shall sit upon twelve thrones judging the twelve tribes of Israel."

Our Lord's first commission to his apostles was in the third year of his public ministry, about eight months after their solemn election; at which time he sent them out by two and two. They were to make no provision of money for their subsistence in their journey, but to expect it from those to whom they preached. They were to declare, that the kingdom of heaven, or the Messiah, was at hand; and to confirm their doctrine by miracles. They were to avoid going either to the Gentiles or to the Samaritans, and to confine their preaching to the people of Israel. In obedience to their Master, the apostles went into all the parts of Palestine inhabited by the Jews, preaching the gospel, and working miracles. The evangelical history is silent as to the particular circumstances attending this first preaching of the apostles; and only informs us, that they returned, and told their Master of all that they had done.

Their second commission, just before our Lord's ascension into heaven, was of a more extensive and particular nature. They were now not to confine their preaching to the Jews, but to "go and teach ALL nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost." Accordingly they began publicly, after our Lord's ascension, to exercise the office of their ministry, working miracles daily in proof of their mission, and making great numbers of converts to the Christian faith. This alarmed the Jewish Sanhedrim; whereupon the apostles were apprehended, and, being examined before the high priest and elders, were commanded not to preach any more in the name of Christ. But this injunction did not terrify them from persisting in the duty of their calling; for they continued daily, in the temple, and in private houses, teaching and preaching the gospel.

After the apostles had exercised their ministry for twelve years in Palestine, they resolved to disperse themselves in different parts of the world, and agreed to determine by lot what parts each should take. According to this division, St Peter went into Pontus, Galatia, and those other provinces of the Lesser Asia. St Andrew had the vast northern countries of Scythia and Sogdiana allotted to his portion. St John's was partly the same with Peter's, namely the Lesser Asia.

St

Apostle.



Apostle.

St Philip had the Upper Asia assigned to him, with some parts of Scythia and Colchis. Arabia Felix fell to St Bartholomew's share. St Matthew preached in Chaldæa, Persia, and Parthia. St Thomas preached likewise in Parthia; as also to the Hyrcanians, Bactrians, and Indians. St James the less continued in Jerusalem, of which church he was bishop. St Simon had for his portion Egypt, Cyrene, Libya, and Mauritania; St Jude, Syria and Mesopotamia; and St Matthias, who was chosen in the room of the traitor Judas, Cappadocia and Colchis. Thus, by the dispersion of the apostles, Christianity was very early planted in a great many parts of the world. We have but very short and imperfect accounts of their travels and actions.

In order to qualify the apostles for the arduous task of converting the world to the Christian religion, they were, in the first place, miraculously enabled to speak the languages of the several nations to whom they were to preach: and, in the second place, were endowed with the power of working miracles, in confirmation of the doctrines they taught; gifts which were unnecessary, and therefore ceased, in the after ages of the church, when Christianity came to be established by the civil power.

St Paul is frequently called the *apostle*, by way of eminence; and the *apostle of the Gentiles*, because his ministry was chiefly made use of for the conversion of the Gentile world, as that of St Peter was for the Jews, who is therefore styled the *apostle of the circumcision*. The several apostles are usually represented with their respective badges or attributes; St Peter with the keys; St Paul with a sword; St Andrew with a cross or saltier; St James minor with a fuller's pole; St John with a cup, and winged serpent flying from it; St Bartholomew with a knife; St Philip with a long staff, whose upper end is formed into a cross; St Thomas with a lance; St Matthew with a hatchet; St Matthias with a battle-axe; St James major with a pilgrim's staff and a gourd bottle; St Simon with a saw; and St Jude with a club.

This appellation was also given to the ordinary travelling ministers of the church.—Thus St Paul, in the Epistle to the Romans, xvii. 7. says, "Salute Andronicus and Junia, my kinsmen and fellow prisoners, who are of note among the apostles." It was likewise a title given to those sent by the churches to carry their alms to the poor of other churches. This usage they borrowed from the synagogues, who called those whom they sent on this message by the same name; and the function or office itself *αποστολη*, *apostle*, q. d. *mission*. Thus St Paul, writing to the Philippians, tells them that Epaphroditus their apostle had ministered to his wants, ch. ii. 25.

The appellation is given in like manner to those persons who first planted the Christian faith in any place. Thus Dionysius of Corinth is called the *apostle of France*; Xavier, the *apostle of the Indies*, &c. In the East Indies the Jesuit missionaries are also called *apostles*.

APOSTLE is also used among the Jews for a kind of officer anciently sent into the several parts and provinces in their jurisdiction, by way of visitor or commissary, to see that the laws were duly observed, and to receive the monies collected for the reparation of

the temple, and the tribute payable to the Romans. The Theodosian code, lib. 14. *De Judæis*, calls those *apostoli, qui ad exigendum aurum atque argentum, à patriarcha certo tempore diriguntur*. Julian the apostate remitted the Jews the *apostle*, *αποστολη*; that is, as he himself explains it, the tribute they had been accustomed to send him. These apostles were a degree below the officers of the synagogue called *patriarchs*, and received their commissions from them. Some authors observe, that St Paul had borne this office; and that it is this he alludes to in the beginning of the epistle to the Galatians: as if he had said, Paul, no longer an apostle of the synagogue, nor sent thereby to maintain the law of Moses, but now an apostle and envoy of Jesus Christ, &c. St Jerome, though he does not believe that St Paul had been an apostle of this kind, yet imagines that he alludes to it in the passage just cited.

APOSTLE, in the Greek liturgy, is particularly used for a book containing the epistles of St Paul, printed in the order wherein they are to be read in churches, through the course of the year. Another book of the like kind, containing the Gospels, is called *Ευαγγελιον*, *Gospel*.—The apostle, of late days, has also contained the other canonical epistles, the acts of the Apostles, and the Revelation. Hence it is also called *Acts of the Apostles*, *Πραξαποστολος*; that being the first book in it.

APOSTLE is also thought by many to have been the original name for bishops, before the denomination *bishop* was appropriated to their order. Thus Theodoret says expressly, the same persons were anciently called promiscuously both bishops and presbyters, whilst those who are now called bishops were called *apostles*. In the arsenal of Bremen, there are twelve pieces of cannon called the *Twelve Apostles*, on a supposition that the whole world must be convinced, and acquiesce in the preaching of such apostles.

APOSTLES Creed: a formula, or summary of the Christian faith, drawn up, according to Rufinus, by the apostles themselves: who, during their stay at Jerusalem, soon after our Lord's ascension, agreed upon this creed, as a rule of faith, and as a *word of distinction* by which they were to know friends from foes. Baronius, and some other authors, conjecture, that they did not compose it till the second year of the reign of Claudius, a little before their dispersion. As to their manner of composing it, some fancy, that each apostle pronounced his article, which is the reason of its being called *symbolum apostolicum*, it being made up of sentences jointly contributed, after the manner of persons paying each their club (*symbolum*) or share of a reckoning.

But there are reasons which may induce us to question whether the apostles composed any such creed as this. For, first, Neither St Luke in the Acts, nor any other ecclesiastical writer before the 5th century, make any mention of an assembly of the apostles in order to the composing of a creed. Secondly, The fathers of the three first centuries, in disputing against the heretics, endeavoured to prove that the doctrine contained in this creed was the same which the apostles taught; but they never pretend that the apostles composed it. Thirdly, If the apostles had made this creed, it would have been the same in all churches, and in all ages; and

Apostle.



Apostolare  
||  
Apostolic.

and all authors would have cited it after the same manner. But the case is quite otherwise. In the second and third ages of the church, there were as many creeds as authors, and one and the same author sets down the creed after a different manner in several places of his works; which is an evidence that there was not at that time any creed which was reputed to be the apostles. In the 4th century, Rufinus compares together the three ancient creeds of the churches of Aquileia, Rome, and the East, which differ very considerably in the terms and expressions, but even in the articles, some of which were omitted in one or other of them; such as those of the *descent into hell*, the *communion of the saints*, and the *life everlasting*. From these reasons it may be gathered, that though this creed may be said to be that of the apostles in regard to the doctrines contained therein, yet it is not to be referred to them as the authors and first composers of it. Who was the true author of it, is not so easy to determine; though its great antiquity may be inferred from hence, that the whole form, as it now stands in the English liturgy, is to be found in the works of St Ambrose and Rufinus, the former of whom flourished in the 3d century, and the latter in the 4th century.

The primitive Christians, in regard they always concealed this and their other mysteries, did not publicly recite the creed, except at the times of baptism; which, unless in cases of necessity, were only at Easter and Whitsuntide. The constant repeating it was not introduced into the church till the end of the 5th century; about which time Petrus Gnapheus, bishop of Antioch, prescribed the recital of it every time divine service was performed.

APOSTOLARE, APOSTOLICARE, *apostolizing*, in some middle age writers, denotes the being preferred to the dignity of pope.

APOSTOLATE, in a general sense, is used for mission. In this sense, Olearius has a discourse concerning the apostolate of Christ.

APOSTOLATE more properly denotes the dignity or office of an apostle of Christ; but it is also used, in ancient writers, for the office of a bishop. In this sense we meet with several letters, petitions, requests, &c. directed to bishops, under the title of your *apostolate*, or *apostolatus vester*. But as the title *apostolicus* had been appropriated to the pope, so that of *apostolate* became at length restrained to the sole dignity of the popedom. Every bishop's see was anciently dignified with the title of *sedes apostolica*, an apostolical see, which is now the peculiar denomination of the see of Rome.

APOSTOLI, in Law, denote those letters missive which are demanded in cases of appeal.

APOSTOLIC, APOSTOLICAL, something that relates to the apostles, or descends from them. Thus we say, the *apostolical age*, *apostolical doctrine*, *apostolical character*, *constitutions*, *traditions*, &c.

APOSTOLIC, in the primitive church, was an appellation given to all such churches as were founded by the apostles; and even to the bishops of those churches, as being the reputed successors of the apostles.—These were confined to four, viz. Rome, Alexandria, Antioch, and Jerusalem. In after times, other churches

assumed the same quality, on account, principally, of Apostolical the conformity of their doctrine with that of the churches which were apostolical by foundation, and because all bishops held themselves successors of the apostles, or acted in their dioceses with the authority of apostles.

The first time the term *apostolical* is attributed to bishops, as such, is in a letter of Clovis to the council of Orleans, held in 511, though that king does not there expressly denominate them *apostolical* but (*apostolica sede dignissimi*) highly worthy of the apostolical see. In 581, Guntram calls the bishops, met at the council of Maçon, *apostolical pontiffs*, *apostolici pontifices*.

In progress of time, the bishop of Rome growing in power above the rest, and the three patriarchates of Alexandria, Antioch, and Jerusalem, falling into the hands of the Saracens, the title *apostolical* was restrained to the pope and his church alone. Though some of the popes, and St Gregory the Great, not contented to hold the title by this tenure, began, at length, to insist, that it belonged to them by another and peculiar right, as being the successors of St Peter. The country of Rheims in 1049 declared that the pope was the sole apostolical primate of the universal church. And hence a great number of apostolicals; *apostolical see*, *apostolical nuncio*, *apostolical notary*, *apostolical brief*, *apostolical chamber*, *apostolical vicar*, &c.

APOSTOLICAL Constitutions. See CONSTITUTION.

APOSTOLICAL Traditions. See TRADITION.

APOSTOLICAL Fathers is an appellation usually given to the writers of the first century who employed their pens in the cause of Christianity. Of these writers, Cotelerius, and after him Le Clerc, have published a collection in two volumes, accompanied both with their own annotations and the remarks of other learned men.

APOSTOLIANS, a sect of the Mennonites, which first sprung up in the year 1664, and derived its name from Apostool, one of the Mennonite ministers at Amsterdam. They concurred with them in doctrine, and admitted to their communion those only who professed to believe all the sentiments which are contained in their public confession of faith.

APOSTOLICI, or APOSTOLICS, was a name assumed by three different sects, on account of their pretending to imitate the manner and practice of the apostles. The first apostolici, otherwise called *Apotactitæ* and *Apotactici*, rose out of the Encratitæ, and Cathari, in the third century. They made profession of abstaining from marriage, and the use of wine, flesh, money, &c.

Gerhard Sagarelli was the founder of the second sect; he obliged his followers to go from place to place as the apostles did, to wander about clothed in white, with long beards, dishevelled hair, and bare heads, accompanied with women, whom they called their spiritual sisters. They likewise renounced all kinds of property and possessions, inveighed against the growing corruption of the church of Rome, predicted its overthrow, and the establishment of a purer church on its ruins. Sagarelli was burnt alive at Parma in the year 1300, and was afterwards succeeded by Dulcinus, who added to the character of an apostle those of a prophet and a general, and carried on a bloody

Apostolical  
||  
Apostolici.



Apostoli-  
cum  
||  
Apoteichif-  
mus.

and dreadful war for the space of more than two years against Reynerius, bishop of Vercelli; he was at length defeated, and put to death in a barbarous manner in the year 1307. Nevertheless, this sect subsisted in France, Germany, and in other countries, till the beginning of the fifteenth century, when it was totally extirpated under the pontificate of Boniface IX.

The other branch of apostolici was of the twelfth century. These also condemned marriage, preferring celibacy, and calling themselves the chaste brethren and sisters; though each was allowed a spiritual sister, with whom he lived in a domestic relation; and on this account they have been charged with concubinage: they held it unlawful to take an oath; they set aside the use of baptism; and in many things imitated the Manichees. Bernard wrote against this sect of apostolici.

APOSTOLICUM is a peculiar name given to a kind of song or hymn, anciently used in churches. The apostolicum is mentioned by Greg. Thaumaturgus as used in his time. Vossius understands it as spoken of the apostles' creed: Suicer thinks this impossible, for that this creed was then unknown in the churches of the east.

APOSTROPHE, in *Rhetoric*, a figure by which a person who is either absent or dead is addressed as if he were present and attentive to us. This figure is, in boldness, a degree lower than the address to personified objects (See *PERSONIFICATION*); since it requires a less effort of imagination to suppose persons present who are dead or absent, than to animate insensible beings and direct our discourse to them. The poems of Ossian abound with the most beautiful instances of this figure. "Weep on the rocks of roaring winds, O Maid of Inistore! Bend thy fair head over the waves, thou fairer than the ghost of the hills when it moves in a sunbeam at noon over the silence of Morven! He is fallen! Thy youth is low: pale beneath the sword of Cuchullin!"

APOSTROPHE, in *Grammar*, the contraction of a word by the use of a comma: as *call'd* for *called*, *tho'* for *though*.

APOTACTITÆ, or APOTACTICI, an ancient sect, who affecting to follow the evangelical counsels of poverty, and the examples of the apostles and primitive Christians, renounced all their effects and possessions. It does not appear that they gave into any errors during their first state; some ecclesiastical writers assure us they had divers holy virgins and martyrs under the persecution of Dioclesian in the fourth century; but they afterwards fell into the opinions of the Encratitæ, and taught that the renouncing of all riches was not only a matter of counsel and advice, but of precept and necessity. And hence the sixth law in the Theodosian code joins the Apotactitæ with the Eunomians and Arians.

APOTEICHISMUS, in the *Ancient Military Art*, a kind of line of circumvallation drawn round a place in order to besiege it. This was also called *periteichismus*. The first thing the ancients went about, when they designed to lay close siege to a place, was the apoteichismus; which sometimes consisted of a double wall or rampart, raised of earth; the innermost to prevent sudden sallies from the town, the outermost to keep off foreign enemies from coming to the relief of the be-

sieged. This answered to what are called *lines of circumvallation* and *circumvallation* among the moderns.

APOTHECARY, one who practises the art of pharmacy. In London, the apothecaries are one of the city companies. They were incorporated by a charter from King James I. procured at the solicitation of Dr Mayerne and Dr Aitkins; till that time they only made a part of the grocers company; plums, sugar, spice, Venice treacle, mithridate, &c. were sold in the same shop and by the same person. The reason of separating them was, that medicines might be better prepared, and in opposition to divers persons who imposed unwholesome remedies on the people. By an act which was made perpetual in the ninth year of George I. they are exempted from serving upon juries, or in ward and parish offices. They are obliged to make up their medicines according to the formulas prescribed in the college dispensatory; and are liable to have their shops visited by the censors of the college, who are empowered to destroy such medicines as they think not good.

They have a hall in Black Friars, where there are two fine laboratories, out of which all the surgeons' chests are supplied with medicines for the British royal navy.

To his majesty belong two apothecaries: the salary to the first, 320l.; to the second, 275l.—To the household belong also two.

The charitable dispensation of medicines by the Chinese is well deserving notice. They have a stone, which is ten cubits high, erected in the public squares of their cities; on this stone are engraved the names of all sorts of medicines, with the price of each; and when the poor stand in need of any relief from physic, they go to the treasury, where they receive the price each medicine is rated at.

APOTHECARY, *Apothecarius*, in writers of the middle age, denotes a shop-keeper or warehouse-keeper.

APOTHECARIUS is also used to denote a store-keeper, or officer appointed to have the direction of a magazine, granary, &c. In which sense *apothecarii* is sometimes rendered by *horearii* and *rationarii*.

APOTHEOSIS, in *Antiquity*, a heathen ceremony, whereby their emperors and great men were placed among the gods. The word is derived from *απο*, and *θεος*, *God*.

After the apotheosis, which they also called *deification* and *consecration*, temples, altars, and images were erected to the new deity; sacrifices, &c. were offered, and colleges of priests instituted.

It was one of the doctrines of Pythagoras, which he had borrowed from the Chaldees, that virtuous persons after their death were raised into the order of the gods. And hence the ancients deified all the inventors of things useful to mankind; and those who had done any important service to the commonwealth.—Tiberius proposed to the Roman senate the apotheosis of Jesus Christ, as is related by Eusebius, Tertullian, and Chrysostom.

Juvenal rallying the frequent apotheoses, introduces poor Atlas, complaining that he was ready to sink under the burden of so many new gods as were every day added to the heavens. Seneca ridicules the apotheosis of Claudius with admirable humour.

The ceremony, according to Herodian's description, was

Apotheca-  
ry  
||  
Apotheosis.



Apothera-  
pia  
||  
Apparatus.

was as follows: After the body of the deceased had been burnt with the usual solemnities, an image of wax, exactly resembling him, was placed on an ivory couch, where it lay for seven days, attended by the senate and ladies of the highest quality in mourning; and then the young senators and knights bore the bed of state through the Via Sacra to the old forum, and from thence to the Campus Martius, where it was deposited upon an edifice built in form of a pyramid. The bed being thus placed amidst a quantity of spices and other combustibles, and the knights having made a solemn procession round the pile, the new emperor, with a torch in his hand set fire to it, whilst an eagle, let fly from the top of the building, and mounting in the air with a firebrand, was supposed to convey the soul of the deceased to heaven; and thenceforward he was ranked among the gods.

We often meet with the consecration or apotheosis of emperors represented on medals; where we see the pyramids of several stories, each growing less and less; we see also the eagles flying away with the souls of the deceased emperors. A gem in the museum of Brandenburg represents the apotheosis of Julius Cæsar, mounted upon the celestial globe, and holding a helm in his hand, as if he were now the governor of heaven, as before of the earth. See DEIFICATION.

APOTHERAPIA, (from *αποθεραπειω*, *I cure*), in *Physic*, properly denotes a complete or finished cure.

APOTHERAPIA is also used in the gymnastic art, for the last part of all regular exercise, viz. friction or unction with oil, before as well as after bathing. The design of this was partly to cleanse the skin from any filth or dust it might have contracted during the exercise, and partly to remove weariness.

APOTOME, in *Geometry*, the difference between two incommensurable lines.

APOTOME, in *Music*, the difference between a greater and lesser semi-tone; expressed by the ratio, 128; 125.

APOTROPÆA, (from *αποτροπω*, *I avert*), in the *Ancient Poetry*, verses composed for averting the wrath of incensed deities; and the deities invoked for averting any threatened misfortune were called *Apotropæans*; they were also called *Alexicaci*, from *αλιξιω*, *I drive away*; and *Averrunci* from *averrunco*, which denotes the same.

APOZEM, in *Medicine*, the same with decoction. See DECOCTION.

APPARATUS, a term used to denote a complete set of instruments, or other utensils, belonging to any artist or machine.

APPARATUS is frequently used for the operation of cutting for the stone. For this there are three sorts of apparatus, viz. the small, great, and high apparatus. See SURGERY.

APPARATUS is also used as a title of several books composed in form of catalogues, bibliothecas, dictionaries, &c. for the ease and conveniency of study. The apparatus to Cicero is a kind of concordance, or collection of Ciceronian phrases, &c. The apparatus facer of Possevin, is a collection of all kinds of ecclesiastical authors printed in 1611, in three volumes.—Glossaries, comments, &c. are also frequently called *apparatuses*.

APPARENT, in a general sense, something that is visible to the eyes, or obvious to the understanding. Apparent, Apparition.

APPARENT, among *Mathematicians* and *Astronomers*, denotes things as they appear to us, in contradistinction from real or true; thus we say, the apparent diameter, distance, magnitude, place, figure, &c. of bodies.

APPARENT Heir, in *Law*. No inheritance can vest, nor can any person be the actual complete heir of another, till the ancestor is previously dead. *Nemo est hæres viventis*. Before that time the person who is next in the line of succession is called an *heir apparent*, or *heir presumptive*. Heirs *apparent* are such, whose right of inheritance is indefeasible, provided they outlive the ancestor; as the eldest son or his issue, who must by the course of the common law be heirs to the father whenever he happens to die. Heirs *presumptive* are such, who, if the ancestor should die immediately, would in the present circumstances of things be his heirs: but whose right of inheritance may be defeated by the contingency of some nearer heir being born; as a brother, or nephew, whose presumptive succession may be destroyed by the birth of a child; or daughter, whose present hopes may be hereafter cut off by the birth of a son. Nay, even if the estate hath descended, by the death of the owner, to such brother, or nephew, or daughter, in the former cases, the estate shall be divested and taken away by the birth of a posthumous child; and, in the latter, it shall also be totally divested by the birth of a posthumous son.

APPARITION, in a general sense, denotes simply the appearance of a thing. In a more limited sense, it is used for a spectre or ghost. Several instances of apparitions occur in the Bible; that of Samuel, raised by the witch of Endor, has occasioned great disputes. We find great controversies among authors, in relation to the reality, the existence or non-existence, the possibility or impossibility, of apparitions. The Chaldeans, the Jews, and other nations, have been the steady assertors of the belief of apparitions. The denial of spirits and apparitions is by some made one of the marks of infidelity, if not of atheism. Many of the apparitions we are told of in writers, are doubtless mere delusions of the sense; many others are fictitious, contrived merely to amuse, or answer some purpose. Apparitions, it is certain, are machines that on occasion have been of good service both to generals, to ministers of state, to priests, and others.

Partial darkness, or obscurity, are the most powerful means by which the sight is deceived: night is therefore the proper season for apparitions. Indeed the state of the mind, at that time, prepares it for the admission of these delusions of the imagination. The fear and caution which must be observed in the night; the opportunity it affords for ambuscades and assassinations; depriving us of society, and cutting off many pleasing trains of ideas, which objects in the light never fail to introduce, are all circumstances of terror: and perhaps, on the whole, so much of our happiness depends upon our senses, that the deprivation of any one may be attended with proportionable horror and uneasiness. The notions entertained by the ancients respecting the soul, may receive some illustration from these principles. In dark or twilight, the imagination frequently transforms



Apparitor  
||  
Appeal.

an inanimate body into a human figure; on approaching, the same appearance is not to be found: hence they sometimes fancied they saw their ancestors; but not finding the reality, distinguished these illusions by the name of *shades*.

Many of these fabulous narrations might originate from dreams. There are times of slumber when we are not sensible of being asleep. On this principle, Hobbes has ingeniously accounted for the spectre which is said to have appeared to Brutus. "We read," says he, "of M. Brutus, that at Philippi, the night before he gave battle to Augustus Cæsar, he saw a fearful apparition, which is commonly related by historians as a vision; but, considering the circumstances, one may easily judge it to have been but a short dream. For sitting in his tent, pensive, and troubled with the horror of his rash act, it was not hard for him, slumbering in the cold, to dream of that which most affrighted him; which fear, as by degrees it made him wake, so it must needs make the apparition by degrees to vanish: and having no assurance that he slept, he could have no cause to think it a dream, or any thing but a vision."—The well known story told by Clarendon, of the apparition of the duke of Buckingham's father, will admit of a similar solution. There was no man in the kingdom so much the subject of conversation as the duke; and from the corruptness of his character, he was very likely to fall a sacrifice to the enthusiasm of the times. Sir George Villiers is said to have appeared to the man at midnight: therefore there is the greatest probability that the man was asleep; and the dream affrighting him, made a strong impression, and was likely to be repeated.

APPARITOR, among the *Romans*, a general term to comprehend all attendants of judges and magistrates appointed to receive and execute their orders. *Apparitor*, in England, is a messenger that serves the process of a spiritual court, or a beadle in a university who carries the mace.

APAUMEE, in *Heraldry*, denotes one hand extended, with the full palm appearing, and the thumb and fingers at full length.

APPEAL, in *Law*, the removal of a cause from an inferior to a superior court or judge, when a person thinks himself aggrieved by the sentence of the inferior judge. Appeals lie from all the ordinary courts of justice to the House of Lords. In ecclesiastical cases, if an appeal is brought before a bishop, it may be removed to the archbishop; if before an archdeacon, to the court of arches, and thence to the archbishop; and from the archbishop's court to the king in chancery.

APPEAL, in *Common Law*, denotes an accusation by a private subject against another for some heinous crime; demanding punishment on account of the particular injury suffered, rather than for the offence against the public.

This private process, for the punishment of public crimes, had probably its original in those times, when a private pecuniary satisfaction, called a *weregild*, was constantly paid to the party injured, or his relations, to expiate enormous offences. This was a custom derived to the English, in common with other northern nations, from their ancestors the ancient Germans; among whom, according to Tacitus, *lucitur homicidium*

*certo armentorum ac pecorum numero; recipiuntque satisfactionem universa domus.* In the same manner, by the Irish Brehon law, in case of murder, the brehon or judge was used to compound between the murderer and the friends of the deceased who prosecuted him, by causing the malefactor to give unto them, or to the child or wife of him that was slain, a recompense which they called an *eriach*. And thus we find in the Anglo-Saxon laws (particularly those of King Athelstan) the several weregilds for homicide established in progressive order, from the death of the ceorl or peasant, up to that of the king himself. And in the laws of Henry I. we have an account of what other offences were redeemable by weregild, and what were not so. As, therefore, during the continuance of this custom, a process was certainly given for recovering the weregild by the party to whom it was due; it seems that, when these offences by degrees grew no longer redeemable, the private process was still continued, in order to ensure the infliction of punishment upon the offender, though the party injured was allowed no pecuniary compensation for the offence.

But though appeals were thus, in the nature of prosecutions for some atrocious injury, committed more immediately against an individual, yet it also was anciently permitted, that any subject might appeal another subject of high treason, either in the courts of common law, or in parliament, or (for treasons committed beyond the seas) in the court of the high constable and marshal. The cognizance of appeals in the latter still continues in force; and so late as 1631, there was a trial by battle awarded in the court of chivalry, on such an appeal of treason: but that in the first was *virtually* abolished by the statutes 5 Edw. III. c. 9. and 2 Edw. III. c. 24. and in the second *expressly* by statute 1 Hen. IV. c. 14. So that the only appeals now in force for things done within the realm, are appeals of felony and mayhem.

An appeal of felony may be brought for crimes committed either against the parties themselves or their relations. The crimes against the parties themselves are *larceny*, *rape*, and *arson*. And for these, as well as for mayhem, the persons robbed, ravished, maimed, or whose houses are burnt, may institute this private process. The only crime against one's relation, for which an appeal can be brought, is that of *killing* him, by either murder or manslaughter. But this cannot be brought by every relation; but only by the wife for the death of her husband, or by the heir male for the death of his ancestor; which heirship was also confined by an ordinance of Henry I. to the four nearest degrees of blood. It is given to the wife on account of the loss of her husband; therefore, if she marries again, before or pending her appeal, it is lost and gone; or, if she marries after judgment, she shall not demand execution. The heir, as was said, must also be heir male, and such a one as was the next heir by the course of the common law at the time of the killing of the ancestor. But this rule has three exceptions: 1. If the person killed leaves an innocent wife, she only, and not the heir, shall have the appeal. 2. If there be no wife, and the heir be accused of the murder, the person, who next to him would have been heir male, shall bring the appeal. 3. If the wife kills her husband, the heir may appeal her of the death. And, by the statute of Gloucester,

Appeal.



Appeal.

cester, 6 Edw. I. c. 9. all appeals of death must be sued within a year and a day after the completion of the felony by the death of the party: which seems to be only declaratory of the old common law; for in the Gothic constitutions we find the same "*prescriptio annalis, que currit adversus auctorem, si de homicida ei non constat intra annum à cæde facta, nec quinquam interea arguat et accuset.*"

These appeals may be brought previous to any indictment; and, if the appellee be acquitted thereon, he cannot be afterwards indicted for the same offence. In like manner as by the old Gothic constitution, if any offender gained a verdict in his favour, when prosecuted by the party injured, he was also understood to be acquitted of any crown prosecution for the same offence: but, on the contrary, if he made his peace with the king, still he might be prosecuted at the suit of the party. And so, in England, if a man be acquitted on an indictment of murder, or found guilty, and pardoned by the king, still he ought not (in strictness) to go at large, but be imprisoned or let to bail till the year and day be past, by virtue of the statute 3 Hen. VIII. c. 1. in order to be forthcoming to answer any appeal for the same felony, not having as yet been punished for it: though, if he hath been found guilty of manslaughter on an indictment, and hath had the benefit of clergy, and suffered the judgment of the law, he cannot afterwards be appealed; for it is a maxim in law, "*nemo bis punitur pro eodem delicto.*" Before this statute was made it was not usual to indict a man for homicide within the time limited for appeals; which produced very great inconvenience.

If the appellee be acquitted, the appellor (by virtue of the statute of Westm. 2. 13 Edw. I. c. 12.) shall suffer one year's imprisonment, and pay a fine to the king, besides restitution of damages to the party for the imprisonment and infamy which he has sustained: and, if the appellor be incapable to make restitution, his abettors shall do it for him, and also be liable to imprisonment. This provision, as was foreseen by the author of Fleta, proved a great discouragement to appeals; so that thenceforward they ceased to be in common use.

If the appellee be found guilty, he shall suffer the same judgment, as if he had been convicted by indictment: but with this remarkable difference, that on an indictment, which is at the suit of the king, the king may pardon and remit the execution; on an appeal, which is at the suit of a private subject, to make an atonement for the private wrong, the king can no more pardon it, than he can remit the damages required on an action of battery. In like manner as, while the weregild continued to be paid as a fine for homicide, it could not be remitted by the king's authority. And the ancient usage was, so late as Henry IV's time, that all the relations of the slain should drag the appellee to the place of execution: a custom, founded upon that savage spirit of family resentment which prevailed universally through Europe after the irruption of the northern nations, and is peculiarly attended to in their several codes of law; and which prevails even now among the wild and untutored inhabitants of America: as if the finger of nature had pointed it out to mankind, in their rude and uncultivated state. However, the punishment of the offender may be remitted

and discharged by the concurrence of all parties interested; and as the king by his pardon may frustrate an indictment, so the appellant by his release may discharge an appeal: "*nam quilibet potest renunciare juri pro se introducto.*"

APPEARANCE, in a general sense, the exterior surface of a thing, or that which immediately strikes the senses.

APPEARANCE, in Law, signifies a defendant's filing a common or special bail, on any process issued out of a court of judicature.

APPELLANT, in a general sense, one who appeals. See APPEAL.

APPELLANTS, in Church History, an appellation given to such of the catholic clergy as appeal from the constitution unigenitus to a general council.

APPELLATION, the name by which any thing is known or distinguished when spoken of. See NAME.

Nothing can be more foreign to the original meaning of many words and proper names, than their present appellations, frequently owing to the history of those things being forgotten, or an ignorance of the language in which they were expressed. Who, for example, when the crier of a court bawls out, "O yes, O yes," would dream that it was a proclamation commanding the talkers to become hearers, being the French word *Oyez*, "listen," retained in our courts ever since the law pleadings were held in French? Or would any person suppose that the headland on the French coast, near Calais, called by our seamen Blackness, could be so titled from its French name of *Blanc Nez*, or, the *White Headland*.

King Henry the Eight having taken the town of Boulogne in France, the gates of which he brought to Harde in Kent, where they are still remaining, the flatterers of that reign highly magnified this action, which, Porto Bello like, became a popular subject for signs; and the port or harbour of Boulogne, called *Boulogne Mouth*, was accordingly set up at a noted inn in Holburn; the name of the inn long outliving the sign and fame of the conquest, an ignorant painter employed by a no less ignorant landlord, to paint a new one, represented it by a bull and a large gaping human mouth (answering to the vulgar pronunciation of *Bull and Mouth*). The same piece of history gave being to the *bull and gate*, originally meant for Boulogne gate, and represented by an embattled gate or entrance into a fortified town.

The *barber's pole* has been the subject of many conjectures; some conceiving it to have originated from the word *poll*, or head, with several other conceits as far-fetched and as unmeaning: but the true intention of that party-coloured staff was to show that the master of the shop practised surgery, and could breathe a vein as well as mow a beard; such a staff being to this day, by every village practitioner, put into the hand of a patient undergoing the operation of phlebotomy. The white band which encompasses the staff, was meant to represent the fillet, thus elegantly twined about it.

Nor were the *chequers* (at this time a common sign of a public house) less expressive, being the representation of a kind of draught-board called *tables*, and showed that there that game might be played. From their colour, which was red, and the similarity to a lattice,

Appearance  
||  
Appellation.



**Appellative** it was corruptly called the *red lettuce*, which word is frequently used by ancient writers to signify an ale-house.

**Appetite**

The Spectator has explained the sign of the *bell savage inn* plausibly enough, in supposing it to have been originally the figure of a beautiful female found in the woods, called in French *la belle sauvage*. But another reason has since been assigned for that appellation, namely, that the inn was once the property of Lady Arabella Savage, and familiarly called *Bell Savage's Inn*, probably represented, as at present, by a bell and a savage or wild man, which was a rebus for her name; rebuses being much in fashion in the 16th century; of which the bolt and tun is an instance.

The *three blue balls* prefixed to the doors and windows of pawnbrokers shops, by the vulgar humorously enough said to indicate that it is two to one that the things pledged are never redeemed, was in reality the arms of a set of merchants from Lombardy, who were the first that publicly lent money on pledges. They dwelt together in a street, from them named Lombard Street, in London, and also gave their name to another at Paris. The appellation of Lombard was formerly all over Europe considered as synonymous to that of usurer.

At the institution of yeomen of the guards, they used to wait at table on all great solemnities, and were ranged near the buffets; this procured them the name of *buffetiers*, not very unlike in sound to the jocular appellation of *beaf-eaters*, now given them; though probably it was rather the voluntary misnomer of some wicked wit, than an accidental corruption arising from ignorance of the French language.

The opprobrious title of *bum bayliffe*, so constantly bestowed on the sheriff's officers, is, according to Judge Blackstone, only the corruption of *bound bayliffe*, every sheriff's officer being obliged to enter into bonds and to give security for his good behaviour, previous to his appointment.

A *cordwainer* seems to have no relation to the occupation it is meant to express, which is that of a shoemaker. But *cordonier*, originally spelt *cordaunier*, is the French word for that trade; the best leather used for shoes coming originally from Cordova in Spain. Spanish-leather shoes were once famous in England.

**APPELLATIVE NAMES**, in *Grammar*, in contradistinction to proper names, are such as stand for universal ideas, or a whole rank of beings, whether general or special. Thus *fish, bird, man, city, river*, are common or appellative names; and so are *trout, eel, lobster*; for they all agree to many individuals, and some to many species. See **NAME**.

**APPELLEE**, among *Lawyers*, the person against whom an appeal is brought. See **APPEAL**.

**APPENDIX**, in *Literature*, a treatise or supplement added at the end of a work, to render it more complete.

**APPERCEPTION**, or **ADPERCEPTION**, a term used by Leibnitz and his followers for consciousness.

**APPETITE**, in a general sense, the desire of enjoying some object, supposed to be conducive to our happiness. When this inclination is guided by reason, and proportioned to the intrinsic value of the object, it is called *rational appetite*; as, on the other hand, it is denominated *sensitive appetite*, when we have only a

blind propensity to a thing, without determinate ideas of the good qualities for which we desire it.

**Appetite**

**Applause**

Appetites are passions directed to general objects, in contradistinction to passions directed to particular objects, which retain their proper name. Thus we say, an *appetite* for fame, for glory, for conquest, for riches; but we say the *passion* of love, of gratitude, of envy, &c. Appetite may be also distinguished from passion, since the latter has no existence till a proper object be presented; whereas the former exists first, and then is directed to an object.

**APPETITE**, in *Medicine*, a certain painful or uneasy sensation, always accompanied with a desire to eat or drink.—An excessive appetite is called by physicians *bulimy* or *fames canina*; a defect or loss of it, *anorexy*; and that after things improper for food, *pica*.

**APPIA VIA**, a way reaching from Rome through Capua to Brundisium, between 330 and 350 miles long. Appius Claudius, surnamed *Cæcus*, in the year of the city 441, carried it from the Porta Capena to Capua (Livy, Frontinus). It was afterwards carried on to Brundisium; but by whom, or when, is uncertain. It was laid with very hard stone, brought from a great distance, large and squared (Diodorus); and it was so wide, that several waggons could go abreast. Statius calls it *the queen of roads*. Its course is described by Horace, Strabo, and Antonine.

**APPIAN**, an eminent writer of the Roman history in Greek, under the reign of Trajan and Hadrian. He was of a good family in Alexandria in Egypt; whence he went to Rome, and there distinguished himself so well as an advocate, that he was chosen one of the procurators of the empire, and the government of a province was committed to him. He did not complete the Roman history in a continued series; but wrote distinct histories of all nations that had been conquered by the Romans, in which he placed every thing relating to those nations in the proper order of time. His style is plain and simple: in the opinion of Phocius, he has shown the greatest knowledge of military affairs, and the happiest talent at describing them, of any of the historians; for while we read him, we in a manner see the battles which he describes. Of all this voluminous work there remains only what treats of the Punic, Syrian, Parthian, Mithridatic, and Spanish wars, with those against Hannibal, the civil wars, and the wars in Illyricum, and some fragments of the Celtic or Gallic wars.

**APPIUS CLAUDIUS**, a Sabine by birth, one of the principal inhabitants of Regillum: His shining merit having drawn the envy of his fellow citizens upon him, he retired to Rome with all his family. Appius was admitted into the senate, and was made consul, with Publius Servilius Priscus, in 258 from the building of Rome: but he was hated by the plebeians, being an austere opposer of their clamours and seditions. The Claudian family continued long one of the most illustrious of the patrician families in Rome; and several in succession of the name of Appius supported the same stern character that distinguished their first founder.

**APPLAUSE**, an approbation of something, signified by clapping the hands, still practised in theatres.—Applause, in antiquity, differed from **ACCLAMATION**, as the latter was articulate and performed with the voice, the former with the hands. Among the Romans,

mans,



Apple  
||  
Appointee.

mans, applause was an artificial musical kind of noise, made by the audience or spectators to express their satisfaction. There were three species of applause, denominated from the different noises made in them, viz. *Bombus*, *Imbrices*, and *Testæ*; the first a confused din, made either by the hands or the mouth; the second and third, by beating on a sort of sounding vessels placed in the theatres for this purpose. Persons were instructed to give applause with skill; and there were even masters who professed to teach the art. The proficient in this way let themselves out for hire to the vain-glorious among the poets, actors, &c. and were properly disposed to support a loud applause. These they called *Laudicæni*, and *Σοφοδαυίς*. At the end of the play, a loud peal of applause was expected, and even asked of the audience, either by the chorus or the persons who spoke last. The formula was, *Spectatores plaudite*, or *Valete et plaudite*. The plausors, or applauders, were divided into chori, and disposed in theatres opposite to each other, like the choristers in cathedrals, so that there was a kind of concert of applauses.

APPLE, the fruit of the *pyrus malus*. See *PYRUS*, *BOTANY Index*.

APPLE of the eye, a name not unfrequently given to the pupil. See *ANATOMY*.

APPLES of Love. See *LYCOPERSICON*, *BOTANY Index*.

Mad APPLES. See *MELONGENA*, *BOTANY Index*.

APPLEBY, the county town of Westmorland, where the assizes are held, is seated on the banks of the river Eden, which almost surrounds it. It was formerly a very considerable town, and had great privileges; but it is long ago gone to decay, and now only consists of mean houses in one broad street, which runs with an easy ascent from north to south; at the head of which is the castle, almost entirely surrounded by the river. It has two churches; a town hall, in which the assizes are held; a county jail; and an hospital for a governess and twelve widows, founded in 1651 by a daughter of Lord Clifford. It is governed by a mayor, twelve aldermen, a common council, and two serjeants at mace, &c. Here is said to be the best corn market in these northern parts. It sends two members to parliament. W. Long. 352. N. Lat. 54. 30.

APPLICATION, in a general sense, is the laying two things together, in order to discover their agreement or disagreement.

APPLICATION, in *Geometry*, is used either for division, for applying one quantity to another, whose areas, but not figure, shall be the same; or, for transferring a given line into a circle, or other figure, so that its ends shall be in the perimeter of the figure.

APPLICATION, in *Theology*, is particularly used, by some divines, for the act whereby our Saviour transfers, or makes over to us, what he had earned or purchased by his holy life and death. Accordingly it is by this application of the merits of Christ that we are to be justified and entitled to grace and glory. The sacraments are the ordinary means or instruments whereby this application is effected.

APPOGIATURA, in *Music*, a small note inserted by the practical musician, between two others, at some distance.

APPOINTEE, a foot soldier in the French army

before the revolution, &c. who for long service and bravery received pay above private sentinels. They were suppressed in France, except in the regiment of French guards, where forty appointees were retained to each company of 150 men.

Appointee  
||  
Apprehension.

Till the year 1670, they had also captains and lieutenants under the appellation of *appointees*, who, without residing in the regiment, received their pay.

APPOINTEE, in *Heraldry*, the same as *aguifée*: Thus we say, a cross appointée, to signify that with two angles at the end cut off, so as to terminate in points.

APPOINTMENT, in a general sense, the same as *ASSIGNATION*.

APPOINTMENT, in a particular sense, denotes a pension or salary given by great lords and princes to persons of worth and parts, in order to retain them in their service. The term is chiefly used among the French. The king of France gave large appointments to several of the officers in his service. Appointments differ from wages, in that the latter are fixed and ordinary, being paid by the ordinary treasurers; whereas appointments are annual gratifications granted by *brevet* for a time uncertain, and are paid out of the privy purse.

APPOSER signifies an examiner. In the court of exchequer, there is an office called the *foreign apposer*. In the office of confirmation, in the first liturgy of Edward VI. the rubric directs the bishop, or such as he shall appoint, to appose a child; and a bishop's examining chaplain was anciently called his *poser*.

APPOSITION, in *Grammar*, the placing two or more substantives together, in the same case, without any copulative conjunction between them; as *Ardebat Alexim, delicias domini*.

APPRAISER (from *ad*, "to," and *pretium*, "value"), one who rates or sets a value upon goods, &c. He must be a skilful and honest person. It is not a business of itself, but is practised by brokers of household furniture; to which set of men the word is chiefly applied: Yet upholsterers and other brokers are employed, or even any person or persons who are supposed to be skilled in the commodities to be appraised or valued. They are employed in cases of death, executions brought in upon goods, or of stock to be turned over from one person to another, or divided between copartners; and are called *sworn appraisers*, from their taking an oath to do justice between party and party. They sometimes appraise on behalf of both sides, each party agreeing to have the same appraiser or appraisers; sometimes in opposition, each party choosing one or more of a side; and sometimes by commission or deputation of trustees, masters in chancery, &c.

APPRAISING, the act of rating, valuing, or setting a price on goods, by a person who is a competent judge, and is authorized thereto. See *APPRAISER*.

APPREHENSION, in *Logic*, denotes the simple attention of the mind to an object presented either to our sense or our imagination, without passing a judgement or making any inference.

APPREHENSION, is likewise used to express an inadequate and imperfect idea; and thus it is applied to our knowledge of God in contradistinction to comprehension.

APPREHENSION, in *Law*, signifies the seizing a criminal, in order to bring him to justice.

APPRENTICE,



**Apprentice, Apprenticeship.** APPRENTICE, (from *apprendre*, "to learn,") one who is bound by covenant to serve a tradesman or artificer a certain time, upon condition of the master's instructing him in his art or mystery.

Apprentices may likewise be bound to husbandmen, or even to gentlemen; and they, as well as tradesmen, in England, are compellable to take the children of the poor, whom the overseers, with the consent of two justices, may bind till the age of 24 years. Apprentices may be discharged on reasonable cause; but if any, whose premium has been less than ten pounds, run away from their masters, they are compellable to serve out the time of absence, or give satisfaction for it, at any period within seven years after expiration of the original contract. Apprentices gain a settlement in that parish where they last served 40 days; and by the 5th of Elizabeth, c. 4. they have an exclusive right to exercise the trade in which they have been instructed, in any part of England. However, the resolutions of the courts have in general rather confined than extended the restriction of this statute. See Blackstone's Com. Vol. I. p. 426, &c.

In France, the sons of tradesmen, living in their father's house till seventeen years of age, are reputed to have served an apprenticeship. In that country, the times of serving are different in the different professions, from three years to eight. After serving out an apprenticeship, the person becomes what they call an *aspirant*, or candidate for mastership, and is to be examined by proper officers as to his skill and proficiency, and also to exhibit a *chef d'œuvre* or masterpiece in the art he has been bred to, before he be suffered to set up to practise for himself. And the custom of France in regard to apprentices, is not unworthy the imitation of other nations.

Anciently, benchers in the inns of court were called *apprentices of the law*, in Latin, *apprenticii juris nobiliores*; as appears by Mr Selden's note on Fortescue; and so the learned Plowden styles himself. Sir Henry Finch, in his *Nomotechnia*, writes himself, *apprentice de ley*: Sir Edward Coke in his *Inst.* says, *Apprenticii legis*, in pleading, are called *homines consiliarii et in lege periti*; and in another places, *apprentices* and other counsellors of law.

Apprentices indentures and articles of clerkship, pay of duty 6s. Parish indentures are excepted, and pay 6d. only, by 5 William III. c. 21. For fees given with apprentices, clerks, or servants, bound or articulated by indentures, from 1l. to 50l. masters pay for every pound 6d.; and for fees above 50l. one shilling in the pound. 8 Ann. c. 9.

**APPRENTICESHIP**, the servitude of an apprentice, or the duration of his indenture.

Seven years seem anciently to have been, all over Europe, the usual term established for the duration of apprenticeships in the greater part of incorporated trades. All such incorporations were anciently called *universities*; which, indeed, is the proper Latin name for any incorporation whatever. The university of smiths, the university of taylor, &c. are expressions which we commonly meet with in the old charters of ancient towns. When those particular incorporations which are now peculiarly called *universities* were first established, the term of years which it was necessary to study, in order to obtain the degree of master of arts,

appears evidently to have been copied from the term of Apprenticeship. apprenticeship in common trades, of which the incorporations were much more ancient. As to have wrought seven years under a master properly qualified was necessary in order to entitle any person to become a master, and to have himself apprentices in a common trade; so to have studied seven years under a master properly qualified was necessary to entitle him to become a master, teacher or doctor (words anciently synonymous), in the liberal arts, and to have scholars or apprentices (words likewise originally synonymous) to study under him.

By the 5th of Elizabeth, commonly called the *statute of apprenticeship*, it was enacted, that no person should for the future exercise any trade, craft, or mystery at that time exercised in England, unless he had previously served to it an apprenticeship of seven years at least; and what before had been the bye-law of many particular corporations, became in England the general and public law of all trades carried on in market towns. For though the words of the statute are very general, and seem plainly to include the whole kingdom, by interpretation its operation has been limited to market towns; it having been held, that in country villages a person may exercise several different trades, though he has not served a seven years apprenticeship to each, they being necessary for the convenience of the inhabitants, and the number of people frequently not being sufficient to supply each with a particular set of hands.

By a strict interpretation of the words, too, the operation of this statute has been limited to those trades which were established in England before the 5th of Elizabeth, and has never been extended to such as have been introduced since that time. This limitation has given occasion to several distinctions which, considered as rules of police, appear as foolish as can well be imagined. It has been adjudged, for example, that a coachmaker can neither himself make, nor employ journeymen to make, his coach wheels, but must buy them of a master wheelwright, this latter trade having been exercised in England before the 5th of Elizabeth. But a wheelwright, though he has never served an apprenticeship to a coachmaker, may either himself make, or employ a journeyman to make, coaches; the trade of a coachmaker not being within the statute, because not exercised in England at the time when it was made. The manufacturers of Manchester, Birmingham, and Wolverhampton, are many of them upon this account not within the statute; not having been exercised in England before the 5th of Elizabeth.

In France the duration of apprenticeships is different in different towns and in different trades. In Paris, five years is the term required in a great number; but before any person can be qualified to exercise the trade as a master, he must, in many of them, serve five years more as a journeyman. During this latter term he is called the *companion* of his master, and the term itself is called his *companionship*.

In Scotland there is no general law which regulates universally the duration of apprenticeships. The term is different in different corporations. Where it is long, a part of it may generally be redeemed by paying a small fine. In most towns, too, a very small fine is sufficient to purchase the freedom of any corporation.

The



Apprenticeship,  
Apprising.

The weavers of linen and hempen cloth, the principal manufactures of the country, as well as all other artificers subservient to them, wheelmakers, reelmakers, &c. may exercise their trades in any town corporate without paying any fine. In all towns corporate, all persons are free to sell butcher's meat upon any lawful day of the week. Three years is in Scotland a common term of apprenticeship, even in some very nice trades: and in general there is no country in Europe in which corporation laws are so little oppressive.

Apprenticeships were altogether unknown to the ancients. The reciprocal duties of master and apprentice make a considerable article in every modern code. The Roman law is perfectly silent with regard to them. There is no Greek or Latin word which expresses the idea we now annex to the word apprentice; a servant bound to work at a particular trade for the benefit of a master during a term of years, upon condition that the master shall teach him that trade.

Long apprenticeships Dr Smith considers as altogether unnecessary. The arts, which are much superior to common trades, such as those of making clocks and watches, contain no such mystery as to require a long course of instruction. The first invention of such beautiful machines, indeed, and even that of some of the instruments employed in making them, must, no doubt, have been the work of deep thought and long time, and may justly be considered as among the happiest efforts of human ingenuity: but when both have been fairly invented and are well understood; to explain to any young man, in the completest manner, how to apply the instruments, and how to construct the machines, cannot well require more than the lessons of a few weeks; perhaps those of a few days might be sufficient. In the common mechanic trades, those of a few days might certainly be sufficient. The dexterity of hand, indeed, even in common trades, cannot be acquired without much practice and experience. But a young man would practice with much more diligence and attention, if from the beginning he wrought as a journeyman, being paid in proportion to the little work which he could execute, and paying in his turn for the materials which he might sometimes spoil through awkwardness and inexperience. His education in this way generally would be more effectual, and always less tedious and expensive. The master, indeed, would be a loser; he would lose all the wages of the apprentice, which he now saves, for seven years together. In the end perhaps, the apprentice himself would be a loser. In a trade so easily learnt he would have more competitors; and his wages, when he came to be a complete workman, would be much less than at present. The same increase of competition would reduce the profits of the masters as well as the wages of the workmen. The trades, the crafts, the mysteries, would all be losers: but the public would be a gainer: the work of all artificers coming in this way much cheaper to market.

APPRISING, in *Scots Law*, the name of that action by which a creditor formerly carried off the estate of his debtor for payment. It is now abolished, and adjudications are appointed in place of it. Adjudications, charter, resignation, *clare constat*, cognition of heirs, heritable right, confirmation, novodamus, principal and original instrument of surrender, retour,

VOL. II. Part II.

feisin, and service in Scotland, pay by different acts 4s. 9d. duty.

APPROACH, or APPROACHING in a general sense, the acceding or coming together of two or more things.

APPROACHES, in *Fortification*, the works thrown up by the besiegers, or order to get nearer a fortress, without being exposed to the enemy's cannon.

APPROACHING, in *Fowling*, a term used to express such devices as are contrived for the getting within shot of shy birds. It is principally used in marshy low places. The best method of approaching is by means of three hoops tied together at proper distances according to the height of the man that is to use it, and having boughs of trees tied all round it, with cords to hang it over his shoulders; a man getting into this, conceals himself, and approaches by degrees towards his game in the form of a moving bush. Geese, ducks, and teal, quit the waters in the evening, and pass the night in the fields; but at the approach of morning they return to the water again, and even when on the water they will retire to great distances, on the approach even of a horse or cow, so that the business of the stalking horse is of little use; but this device of approaching by the moving bush succeeds tolerably well with them.

APPROACHING, in *Gardening*, the inoculating or ingrafting the sprig of one tree into another, without cutting it off the parent tree.

APPROBATION, a state or disposition of the mind, wherein we put a value upon, or become pleased with, some person or thing. Moralists are divided on the principle of approbation, or the motive which determines us to approve and disapprove. The Epicureans will have it to be only self-interest: according to them, that which determines any agent to approve his own action, is its apparent tendency to his private happiness; and even the approbation of another's action flows from no other cause but an opinion of its tendency to the happiness of the approver, either immediately or remotely. Others resolve approbation into a moral sense, or a principle of benevolence by which we are determined to approve every kind affection either in ourselves or others, and all publicly useful actions, which we imagine to flow from such affection, without any view therein to our own private happiness.

APPROBATION, is more particularly used, in speaking of recommendations of books, given by persons qualified or authorized to judge of them. Those appointed to grant licenses and imprimaturs, frequently express their approbation of books. Books were formerly subjected to a licenser in England, (see 13th Car. II. c. 33.), which act is long since expired; and being incompatible with the noble principles of the Revolution, has never since been, and it is hoped never will be, revived.

APPROPRIATION, in the *Canon Law*, a severing of a benefice ecclesiastical to the proper and perpetual use of some religious house. See the article PARSON.

The contrivance of appropriations seems to have sprung from the policy of the monastic orders, who have never been deficient in subtle inventions for the increase of their own power and emoluments. At the first establishment of parochial clergy, the tithes

Approach  
||  
Appropriation.

Health of  
Nations,  
vol. i.  
p. 190.



Appropriation.

of the parish were distributed in a fourfold division; one for the use of the bishop, another for maintaining the fabric of the church, a third for the poor, and the fourth to provide for the incumbent. When the fees of the bishops became otherwise amply endowed, they were prohibited from demanding their usual share of these tithes, and the division was into three parts only. And hence it was inferred by the monasteries, that a small part was sufficient for the officiating priest; and that the remainder might well be applied to the use of their own fraternities (the endowment of which was construed to be a work of the most exalted piety), subject to the burden of repairing the church and providing for its constant supply. And therefore they begged and bought, for masses and obits, and sometimes even for money, all the advowsons within their reach, and then appropriated the benefices to the use of their own corporation. But, in order to complete such appropriation effectually, the king's license, and consent of the bishop, must first be obtained; because both the king and the bishop may some time or other have an interest, by lapse, in the presentation to the benefice; which can never happen if it be appropriated to the use of a corporation, which never dies: and also because the law reposes a confidence in them, that they will not consent to any thing that shall be to the prejudice of the church. The consent of the patron also is necessarily implied, because the appropriation can be originally made to none but to such spiritual corporation as is also the patron of the church; the whole being indeed nothing else but an allowance for the patrons to retain the tithes and glebe in their own hands, without presenting any clerk, they themselves undertaking to provide for the service of the church. When the appropriation is thus made, the appropriators and their successors are perpetual parsons of the church; and must sue and be sued, in all matters concerning the rights of the church, by the name of *parsons*.

This appropriation may be severed, and the church become disappropriate, two ways; as, first, If the patron or appropriator presents a clerk, who is instituted and inducted to the parsonage: for the incumbent so instituted and inducted is to all intents and purposes complete parson; and the appropriation being once severed, can never be reunited again, unless by a repetition of the same solemnities. And, when the clerk so presented is distinct from the vicar, the rectory thus vested in him becomes what is called a *fine-cure*; because he hath no cure of souls, having a vicar under him to whom that cure is committed. Also, if the corporation which has the appropriation is dissolved, the parsonage becomes disappropriate at common law; because the perpetuity of person is gone, which is necessary to support the appropriation.

In this manner, and subject to these conditions, may appropriations be made at this day: and thus were most, if not all of the appropriations at present existing originally made; being annexed to bishopricks, prebends, religious houses, nay, even to nunneries, and certain military orders, all of which were spiritual corporations. At the dissolution of monasteries, by statutes 27 Hen. VIII. c. 28, and 31 Hen. VIII. c. 13. the appropriations of several parsonages, which belonged to those respective religious houses (amounting to more

than one third of all the parishes in England), would have been by the rules of the common law disappropriated; had not a clause in those statutes intervened, to give them to the king in as ample a manner as the abbots, &c. formerly held the same at the time of their dissolution. This, though perhaps scarcely defensible, was not without example: for the same was done in former reigns, when the alien priories (that is, such as were filled by foreigners only) were dissolved and given to the crown. And from these roots have sprung all the lay appropriations or secular parsonages which we now see in the kingdom; they having been afterwards granted out from time to time by the crown. See the article *PARSON and Vicar*.

APPROVER, in *Law*, one who, confessing felony in himself, appealeth or impeacheth another or more of his accomplices. He is so called from the French *aprouver, comprobare*, because he must prove what he hath alleged in his appeal. This proof was anciently either by battle, or by the country, at the choice of the appellee; and the form of this accusation may be found in *Crompt. Just.* 250.

APPROVERS of the king, are those who have the letting of the king's demesnes in small manors, &c. In the statute of Ed. III. c. 8. sheriffs are called the king's *approvers*.

It being in the discretion of the court to suffer one to be an approver, this method of late hath seldom been practised. But we have, in cases of burglary and robbery on the highway, what seems to amount to the same by statute; it being ordained, that where persons charged with such crimes out of prison, discover two others concerned in the crime, they shall have a pardon, &c. Stat. 5th Anne, c. 31.

APPROVER is particularly used in ancient law writers, for a bailiff or land steward, appointed to have the care of a manor, franchise, or the like, and improve and make the most of it for the benefit of his master. In this sense, the word is also written *appruare*.

APPROXIMATION, in *Arithmetic* and *Algebra*, the coming nearer and nearer to a root, or other quantity sought, without expecting to be ever able to find it exactly.

APPUI, in the *Manege*, (q. d. rest or stay upon the hand), is the reciprocal effort between the horse's mouth and the bridle-hand, or the sense of the action of the bridle on the hand of the horseman.

A just appui of the hand, is the nice bearing up or stay of the bridle, so that the horse, being awed by the sensibility and tenderness of his mouth, dares not rest too much upon the bitmouth, nor check or beat upon the hand to withstand it. A horse is said to have no appui, when he is too apprehensive of the hand, and cannot bear the bit. He is said to have too much appui, when he rests or throws himself too much upon the bit. Horses designed for the army ought to have a full appui upon the hand. To give a horse a good appui, he should be galloped, and put often back.

APPULSE, in *Astronomy*, the approach of any planet to a conjunction with the sun, or a star. It is a step towards a transit, occultation, conjunction, eclipse, &c. Mr Flamsted, M. de la Hire, and others, have given observations of the moon's appulses to the Pleiades. *Phil. Transf.* N<sup>o</sup> 76. p. 361. *M. Acad. Science, an.* 1708.

Approver  
||  
Appulse.



Apricot

Apta.

APRICOT, in *Botany*. See PRUNUS.

APRIES, son of Plammis, king of Egypt; the same with Pharaoh Hophrah in Jeremiah and Ezekiel. He ruined Sidon, and some say he put Jeremiah to death. He thought neither God nor man could dethrone him; which yet was easily done by Amasis, and he himself was strangled by the Egyptians.

APRIL, the fourth month of the year, according to the common computation; but the second, according to that of the astronomers. It contains 30 days.—The word is derived from *aprilis*, of *aperio*, "I open;" because the earth, in this month, begins to open her bosom for the production of vegetables. In this month the sun travels through the sign Taurus.

A PRIORI, a kind of demonstration. See DEMONSTRATION.

APRON, in *Naval Architecture*, is a piece of curved timber fixed behind the lower part of the stern, immediately above the foremost end of the keel.

APRON is also a name given to a platform or flooring of plank, raised at the entrance of a dock, against which the dock gates are shut.

APRON, in *Gunnery*, a piece of lead which caps or covers the vent or touch-hole of a great gun.

APISIS or ABSIS, signifies the bowed or arched roof of a house, room, or oven, &c. as also the ring or compass of a wheel.

APISIS, in *Ecclesiastical Writers*, denotes an inner part in the ancient churches, wherein the clergy sat, and where the altar was placed. It is supposed to have been thus called, because covered with an arch or vault of its own, by the Greeks called *αψίς*, by the Latins *absis*. Apsis, in this sense, amounts to the same with what is otherwise called *choir*, *concha*, *camera*, and *presbyterium*; and stands opposed to the *nave* or body of the church.

APISIS is more particularly used for the bishop's seat, or throne, in ancient churches. This was peculiarly called *apsis gradata*, because raised on steps above the ordinary stalls. It was also denominated *exedra*, and in latter times *tribune*.

APISIS is also used for a reliquary, or case, wherein the relics of saints were anciently kept. It took the name *apsis*, from its being round or arched at the top; or perhaps from the place where it was kept. The *apsis* was commonly placed on the altar: it was usually of wood, sometimes also of gold and silver, with sculptures, &c.

APISIS, in *Astronomy*, a term used indifferently for either of the two points of a planet's orbit, where it is at greatest or least distance from the sun or earth; and hence the line connecting those points is called the line of the *apsides*. The word is Greek, and derived from *απτα*, to connect. The apsis, at the greatest distance from the sun, is called the *aphelion*, and at the greatest distance from the earth the *apogee*; while that at the least distance from the sun is termed the *perihelion*, and at the least distance from the earth the *perigee*.

APSIRTIDES. See ABSORUS.

APTA, or ΑΡΤΑ JULIA, (Pliny); now *Apte*, in Provence, on the river Calavon, seven leagues to the north of Aix, and nine to the north of Avignon. In the *Notitiæ* it is called *Civitas Aptensium*: Pliny reckons it among the Latin towns. That it was a co-

lony, appears from an inscription on a stone found at Arles, (Sirmond). E. Long. 5. 56. N. Lat. 43. 23.

APTERA, (Strabo, Stephanus); ΑΠΤΕΡΟΝ, (Pliny); ΑΠΤΕΡΙΑ, (Ptolemy): An inland town of Crete, whose port was Cifamus, on the west side of the island, (Strabo); 12 miles to the south of Cydonia towards the Montes Leuci, and as many from the Sinus Amphimales. So called from the Sirens, who, being there vanquished in song by the Muses, stript themselves of their wings, and out of grief leaped into the sea, (Stephanus). There was a town of Lycia of the same name. E. Long. 25. N. Lat. 35. 50.

APTERA, a term used by Linnæus for his seventh order of insects, comprehending such as have no wings.

APTHANE, a title anciently given to the higher degrees of nobility in Scotland. See THANE.

APTITUDE, (from *aptus*, "fit"), the natural disposition any thing hath to serve for such or such a purpose.—Thus, oil hath an *aptitude* to burn, and water to extinguish fire.

APTITUDE, or APTNESS, is often used, in speaking of the talents of the mind, for a promptitude, or disposition to learn things with ease and expedition: in which sense *aptness* amounts to the same with what the Greeks call *επιμαθία*, *bona indoles*, and we sometimes *dolcility*. Charlton divides *aptness* into these parts, viz. *acuteness*, *sagacity*, and *memory*.

APTOTE, among *Grammarians*, an indeclinable noun, or one which has no variation of cases.

APULEIUS LUCIUS, a Platonic philosopher, universally known by his performance of the *Golden Ass*. He lived in the second century, under the Antonines; and was born at Madaura, a Roman colony in Africa. He studied first at Carthage, then at Athens, and afterwards at Rome, where he learned the Latin tongue without the help of a master. He was a man of a curious and inquisitive disposition, especially in religious matters: this prompted him to take several journeys, and to enter into several societies of religion. He spent his whole fortune almost in travelling; so that, at his return to Rome, when he was about to dedicate himself to the service of Osiris, he had not money enough to defray the expence attending the ceremonies of the reception, and was obliged to pawn his clothes to raise the necessary sum. He supported himself afterwards by pleading causes: and as he was a great master of eloquence, and of a subtle genius, many considerable causes were trusted to him. But he availed himself more by a good marriage than by his pleadings; a widow, named *Pudentilla*, who was neither young nor handsome, but wanted a husband and was very rich, took a great fancy to him. This marriage drew upon him a troublesome law suit. The lady's relations, pretending he made use of sorcery to gain her heart and money, accused him of being a magician before Claudius Maximus proconsul of Africa. Apuleius was under no great difficulty of making his defence. As *Pudentilla* was determined from considerations of health, to enter upon a second marriage, even before she had seen this pretended magician, the youth, deportment, pleasing conversation, vivacity, and other agreeable qualities of Apuleius, were charms sufficient to engage her heart. He had the most favourable opportunities too of gaining her friendship, for he lodged some time at her house: *Pudentilla's* eldest son

Aptera

Apuleius



Apuleius  
||  
Apus.

having a great friendship for him, was likewise desirous of the match, and solicited him in favour of Pudentilla. "Do you make a wonder (said Apulcius, in his defence) that a woman should marry again, after having lived a widow 13 years? It is much more wonderful that she did not marry again sooner. You think that magic must have been employed to prevail with a widow of her age to marry a young man; on the contrary, this very circumstance shows how little occasion there was for magic." He offered to prove by his marriage contract, that he got nothing of Pudentilla but a promise of a very moderate sum, in case he survived her and had children by her. He was also obliged to make such confessions in court as Pudentilla would gladly have excused. He said she was neither handsome nor young, nor such as could any ways tempt him to have recourse to enchantments: moreover, he added, that Pontianus her son proposed the marrying his mother to him only as a burden, and the action of a friend and philosopher. He also took notice of many inconveniences which attend the marrying of widows, and spoke highly of the advantages of a maid above a widow: A handsome virgin (said he), let her be ever so poor, is abundantly portioned; she brings to her husband a heart quite new, together with the flower and first fruits of her beauty. It is with great reason that all husbands set so great a value upon the flower of virginity: all the other goods which a woman brings her husband are of such a nature, that he may return them again, if he has a mind to be under no obligation to her: that alone cannot be restored, it remains in the possession of the first husband. If you marry a widow, and she leaves you, she carries away all that she brought you." Upon which passage Mr Bayle makes a very coarse remark, viz. "That this good which is never taken back out of the hands of a husband, is very chimerical; and that there is never a baker nor a butcher, who would lend sixpence upon this unperishable possession." The apology is still extant, and is reckoned a very fine piece. Apuleius was extremely indefatigable in his studies: and composed several books, some in verse, and others in prose; but most of them have been lost. He took great pleasure in declaiming, and was heard generally with great applause: When he declaimed at Oeca, the audience cried out with one voice, that they ought to confer upon him the honour of citizen. The citizens of Carthage heard him with great satisfaction, and erected a statue to him; and several other cities did him the same honour. Several critics have published notes on Apuleius's Golden Ass, and there have been translations of it into different languages.

APULIA, now PUGLIA, a territory of Italy, bordering on the Adriatic, and extending from the river Frento to Tarentum in length, and from the Adriatic to the Lucani in breadth. *Apuli* the people (Horace); divided into the *Apulia Daunia*, now called *Puglia Pinna*, or the *Capitanata*; and into the *Apulia Peucetia*, now *Terra di Bari*, (Pliny, Ptolemy). Apulia abounded in sheep, which yielded the finest wool (Martial). It is now the east side of the kingdom of Naples.

APUS, *Avis Indica*, in *Astronomy*, a constellation of the southern hemisphere placed near the pole, between the triangulum australe and the chameleon, supposed to represent the bird of paradise.

APYCNI SUONI, in *Music*, sounds distant one or more octaves, and yet concord.

APYCNOS, in *Music*, is said of the diatonic genus, on account of its having spacious intervals, in comparison of the chromatic and enharmonic.

APYREXY, among *Physicians*, denotes the intermission of a fever.

APYROUS, a word applied to denote that property of some bodies, by which they resist the most violent fire without any sensible alteration. Apyrous bodies ought to be distinguished from those which are refractory. Refractory substances are those which cannot by violent heat be fused, whatever other alteration they may sustain. But a body, properly speaking, apyrous, can neither be fused by heat, nor can undergo any other change. Diamonds were long thought to be possessed of this property. But some late experiments have shown, that diamonds may be entirely dissipated or evaporated by heat, and are therefore not entitled to be ranked among apyrous substances. Perhaps there is no body in nature essentially and rigorously apyrous. But it is sufficient that there be bodies apyrous relatively to the degree of fire which art can produce, to entitle them to that name.

AQUA, a term frequently met with in the writings of physicians, chemists, &c. for certain medicines, or menstrua, in a liquid form, distinguished from each other by peculiar epithets as *Aqua Alexiteria*, *Aqua Aluminosa*, *Aqua Mirabilis*, &c. for which see PHARMACY.

*Aqua Exincta*, or *Extinguished Water*, is aquafortis into which some river water has been poured, in order to qualify it, and render it less corrosive. Its use is to get the silver from the aquafortis that served to part gold from it.

*Aqua Fortis*, a name given by artists to nitric acid of a certain strength, from its dissolving power. See CHEMISTRY Index.

*Aqua Marina*, a name by which the jewellers call the beryl, on account of its sea-green colour. See BERYL.

*Aqua Regia*, a compound of nitric and muriatic acid, in different proportions according to the purpose for which it is intended. It is usually made by dissolving it in nitric acid, sal ammoniac, or common salt, both which are combinations of muriatic acid with alkali. When made with sal ammoniac, the common proportion is one part of this salt to four parts of nitric acid; but to dissolve platina, equal parts are requisite. A purer aqua regia may be made by simply mixing the two acids.

Aqua regia is particularly used as a menstruum for gold; it likewise dissolves all other metals, except silver. The gold dissolved in aqua regia is, in fact, dissolved in the oxygenated muriatic acid only, which gives out its oxygen to the gold, and then dissolves the oxide: for metals are not soluble in acids until they are oxidated. See CHEMISTRY Index.

*Aqua Secunda*, aquafortis diluted with much pure water. It is employed in several arts, to clear the surface of metals and certain stones, and for various other purposes.

*Aqua Vitæ* is commonly understood of what is otherwise called *brandy*, or spirit of wine, either simple, or prepared with aromatics. Some, however, distinguish

Apycni  
||  
Aqua Vi-  
tæ.



*Aquæ Augustæ* distinguish them; appropriating the term *brandy* to what is drawn from wine, or the grape; and *aqua vite* to that drawn after the same manner, from malt, &c.

*Aquæ Augustæ* (Ptolemy); *Aquæ Tarbellicæ* (Antonine); *Aquens Civitas*, in the Notitia. Now *Acqs*, or *Dax*, a town in Gascony, on the river Adour, famous for its baths. W. Long. 1. 40. N. Lat. 43. 56.

*Aquæ Bilbilitanæ*, (Antonine): baths 24 miles to the west of Bilbilis. Now *Banos de Albama*, in Aragon.

*Aquæ Calidæ*, (Ptolemy; *Aquæ Solis*, (Antonine); a place of the Belgæ in Britain, famous for its hot waters. Now Bath in Somersetshire. W. Long. 1. 5. Lat. 51. 20.

*Aquæ Calidæ*, (Ptolemy); *Aquicaldensis*, (Pliny); formerly in great repute, and a public bath; whose ruins still remain, testimonies of the Roman grandeur. Now *Orense*, in Galicia, still famous for its baths; on the river Minho, 54 miles south-east of Compostella. W. Long. 8. 30. N. Lat. 42. 30. Also a place in the bay of Carthage, (Strabo). Other *Aquicaldenses*, to the north of Gerunda in Catalonia, (Ptolemy).

*Aquæ Calidæ*, a colony between the rivers Serbetes and Savus, in Mauritania Cæsariensis (Ptolemy).

*Aquæ Celeinæ*, (Ptolemy); or *Cilina*, (Antonine). Now *Caldas*, a hamlet on the Minho, in Galicia.

*Aquæ Convenarum*, a hamlet of Gaul, in Aquitaine, (Antonine), and on the borders of the Convenæ, or le Cominge, at the foot of the Pyrenees, near the source of the Garonne. Now *Bagneres*. W. Long. 3. 39. N. Lat. 42. 20.

*Aquæ Cutiliæ*, a lake of the Sabines, in the territory of Reat (Pliny); *Lacus Cutiliensis*, (Varro); with a moveable island in it, (Seneca, Pliny); supposed to be the centre of Italy, (Varro). The waters were medicinal, and extremely cold, good for a weak stomach and in weak nerves; they seemed to act by a kind of suction, which approached to a bite, (Pliny). Vespasian used them every summer; and there he died, (Sueton. Xiphilin from Dio.) Now *Lago di Contigliano*.

*Aquæ Flavie*, a town on the confines of Galicia and Portugal, so called from Vespasian and Titus. The inhabitants are called *Aquiflavienfes* on coins. Now called *Chiaves*, a mean hamlet; but the ruins of its bridge testify its former grandeur. W. Long. 6. 6. N. Lat. 41. 40.

*Aquæ Helvetiæ*, described by Tacitus as a municipal town, and much frequented for its excellent water; and though he does not mention its name, Cluverius supposes it to be Baden, in Switzerland, on the rivulet Limat, which soon after falls into the Aar. It is called the Upper, to distinguish it from another called the Lower Baden, in Alsace. E. Long. 8. 49. N. Lat. 47. 55.

*Aquæ Merom* (Joshua), famous for the defeat of Jabin: supposed to be the lake called *Samachonites*, or *Semechonites*, by Josephus; into which the river Jordan falls, before it comes to the sea of Genesareth, or Galilee.

*Aquæ Pannoniæ*, famous baths of Austria, now called *Baden*, 28 miles to the south of Vienna.

*Aquæ Patavinæ*, are baths in the territory of Venice near Padua, (Pliny); called *Fontes Aponi* (Livy, Martial). Now *Bagni d'Abano*. E. Long. 13. 48. N. Lat. 45. 15.

*Aquæ Quintianæ*, put by Ptolemy in room of the *Aquæ Cilinæ* of Antonine. Now supposed to be *Sarria*, a town of Galicia, on a rivulet of the same name, three leagues to the south of Lugo.

*Aquæ Sextiæ*, a colony to the north of Marseilles, so called both from the founder Sextius Clavinus, and from its quantity of water, and number of cold and hot springs; built after the defeat of the Salyes, or Salvii, whose territory in the south of Provence reached from the Rhone to the borders of Italy, (Livy, Velleius, Strabo, Ptolemy). By an inscription the colony appears to have been either increased or renewed by Augustus. In the Notitia it is called *Civitas Aquensis*. Now *Aix*. Here the Teutones and Cimbri were defeated with great slaughter by Marius. E. Long. 6. 4. N. Lat. 48. 4.

*Aquæ Statiellæ*, or *Statiellorum*, (Pliny), a town in Liguria, or the river Bormia. Now *Acqui*, a town of Monterrat. E. Long. 8. 40. N. Lat. 44. 45.

*Aquæ Tauri*, hot waters or baths in Tuscany at the distance of three miles from the sea, said to be discovered by a bull, hence the appellation. There are still to be seen the ruins of these baths. Now *Aquapendente*, in Orvieto. E. Long. 12. 40. N. Lat. 42. 40.

**AQUÆDUCT**, in *Hydraulics* and *Architecture*, a structure formed for conveying water from one place to another, over grounds that are unequal. The word is compounded of the Latin substantive *aqua* water, and *ductus* a channel by which that water may be conducted.

Architects distinguish two kinds of aquæducts; the *visible*, and the *subterraneous*.—The *visible* are constructed in valleys or marshes, and protracted in longitude or latitude as the situation requires. They are composed of adminicula for supporting the arches and confining the stream, and of arcades.—The *subterraneous* are formed, by piercing the mountains, and conducting them below the surface of the earth. They are built of stone hewn or rough: and covered above with vaults, or with flat stones, which may be termed *flags*; these flags shelter the waters from the heat of the sun.

They divide them still into *double* and *triple* aquæducts; that is to say, such as are supported either by two or by three ranges of arcades. Such was the aquæduct which Procopius records to have been built by Cosroës king of the Persians, for the city of Petra in Mingrelia: it had three conduits upon the same line, each elevated above the other.

Frequently aquæducts are paved. Sometimes the waters flow through a natural channel of clay. Frequently they are conveyed by pipes of lead into reservoirs of the same metal, or into troughs of hewn stone. The channels are cut with an imperceptible descent, that the current may be accelerated by its own weight. Parallel to its course, on each side, is cut a narrow footpath, where people may walk when necessary. By conduits, or grooves, the waters are conveyed into large cisterns, but not forced above their original level. To make them rise and issue from their apertures

*Aquæ Patavinæ*  
||  
*Aquæduct.*



**Aquæduct.** apertures with force, they must be confined in tubes of a small diameter, and abruptly fall from a considerable declivity.

Aquæducts of every kind were long ago the wonders of Rome: the vast quantity of them which they had; the prodigious expence employed in conducting waters over arcades from one place to another, at the distance of 30, 40, 60, and even 100 miles, which were either continued or supplied by other labours, as by cutting mountains and piercing rocks; all this ought to surprise us: nothing like this is undertaken in our times: we dare not even think of purchasing public convenience at so dear a rate. Appius the censor advised and constructed the first aquæduct. His example gave the public luxury a hint to cultivate these objects; and the force of prodigious and indefatigable labour diverted the course of rivers and floods to Rome. Agrippa, in that year when he was ædile, put the last hand to the magnificence of these works. It is chiefly in this respect that the modern so much resembles the ancient city of Rome. For this advantage, she is peculiarly indebted to Sextus V. and to Paul V. who for grandeur and magnificence emulated the masters of the uni-

\* See *New Memoirs of Italy*, vol. i. There are still to be seen, in different places contiguous to Rome, striking remains of these aquæducts; arches continued through a long space, over which were extended the canals which carried the water to the city. The arches are sometimes low, sometimes raised to a vast height, to humour the tumidities or depressions of the ground. There are some which have two arcades; one constructed above the other; and this precaution was observed, lest the height of a single arcade, if extended as far as the situation required, might render the structure less firm and permanent. They are commonly of bricks; which by their cement cohere so strongly, that the parts are not separated without the utmost difficulty.—When the elevations of the ground were enormous, it became necessary to form *subterraneous* aquæducts. These carried the waters to such aquæducts as were raised above ground, in the declivity or at the foot of mountains. If the artificial channel of the water was not susceptible of a downward bias but by passing through a rock, through this they cut a passage at the same height with the superior aquæduct: such a one may be seen above the city of Tivoli, and at the place called *Vicavaro*. The canal which formed the course of the aquæduct is hewn out of the rock to the extent of more than a mile, about five feet in height and four in breadth.

There is one thing, however, which deserves to be remarked. It is, that these aquæducts, which might have been directed in a straight line to the city, did not arrive at it but by frequent and winding mazes. Some have said that this oblique track was pursued to avoid the expence which must attend the building of arcades to an extraordinary height: others, that it was their intention to diminish the impetuosity of the current; which, rolling in a straight line through an immense space, must always have increased its velocity, must have worn the canals by perpetual and forcible attrition, and of consequence afforded an impure and unwholesome draught to the inhabitants. But since there was so great a descent between the cascade of Tivoli and Rome, it is demanded why they should go to draw water from the same river at the distance of more than

20 miles higher; nay, of more than 30 miles, if we reckon the curvatures of its direction through that mountainous country? It is replied, the motive of obtaining the water more salubrious, and more limpid, was sufficient to make the Romans think their labour necessary, and their expence properly bestowed; and to those who reflect that the waters of this river were impregnated with mineral particles, and by no means wholesome, the answer will appear satisfactory.

If any one will cast his eyes upon Plate 128th of Vol. iv. the Antiquities of Father Montfaucon, he will see with how much care these immense works were constructed. From distance to distance spiramenta were left, that, if the water should happen to be stopped by any accident, it might gradually disembogue, till they could clear its ordinary passage. There were likewise, even in the very canals which conveyed the water, cavities considerably deeper than its internal surface, into which the stream was precipitated, and where it remained stagnant till it was refined from mud and feculence; and ponds, where it might expand itself till it was purified.

The aquæduct of the *Aqua Marcia* had an arch of 16 feet in diameter. The whole was composed of three different kinds of stone; one of them reddish, another brown, and a third of an earth colour. Above, there appeared two canals; of which the highest was fed by the new waters of the Tiverone, and the lower by what they call the *Claudian* river. The entire edifice is 70 Roman feet high. Near this aquæduct, we have in Father Montfaucon the plan of another with three canals; the highest supplied by the water called *Julia*, that in the middle from *Tepula*, and the lowest from the *Aqua Marcia*.

The arch of the aquæduct of the *Aqua Claudia* is of hewn stone, very beautiful; that of the aquæduct of the *Aqua Neronia* is of bricks: they are each of them 72 Roman feet in height.

The canal of the aquæduct which was called the *Aqua Appia*, deserves to be mentioned for a singularity which is observed in it; for it is not, like the others, plain, nor gradual in its descent; but much narrower at the lower than the higher end.

The consul Frontinus, who superintended the aquæducts under the emperor Nerva, mentions nine of them which had each 13,594 pipes of an inch in diameter. Vigerus, observes, that, in the space of 24 hours, Rome received 500,000 hogsheds of water.

We might likewise have mentioned the aquæduct of Drusus, and that of Rimini: but we shall satisfy ourselves with observing here, that Augustus caused all the aquæducts to be repaired; and afterwards pass to other monuments of the same kind, and still more important, which give the most striking ideas of Roman magnificence.

One of these monuments is the aquæduct of Metz, of which a great number of arcades still remain. These arcades crossed the Moselle, a river which is broad and vast at that place. The copious sources of Gorze furnished water for the representation of a sea fight. This water was collected in a reservoir: from thence it was conducted by subterraneous canals formed of hewn stone, and so spacious that a man could walk erect in them: it traversed the Moselle upon its superb and lofty arcades, which may still be seen at the distance of



Aquamboe two leagues from Metz; so nicely wrought and so firmly cemented, that, except those parts in the middle which have been carried away by the ice, they have resisted, and will still resist, the severest shocks of the most violent seasons. From these arcades, other aquæducts conveyed the waters to the baths, and to the place where the naval engagement was mimicked.

If we may trust Colmenarus, the aquæduct of Segovia may be compared with the most admired labours of antiquity. There still remain 159 arcades, wholly consisting of stones enormously large, and joined without mortar. These arcades, with what remains of the edifice, are 102 feet high; there are two ranges of arcades, one above another. The aquæduct flows through the city and runs beneath the greatest number of houses which are at the lower end.

After these exorbitant structures, we may be in some degree believed when we speak of the aquæduct which Louis XIV. caused to be built near Maintenon, for carrying water from the river Bucq to Versailles: it is perhaps the greatest aquæduct which now subsists in the world: it is 7000 fathoms in length, and contains 242 arcades.

AQUAMBOE, one of the greatest monarchies on the coast of Guinea in Africa, stretching 20 miles in breadth, and ten times that space in length from east to west. According to Bosman, the coast is divided into a great number of petty royalties, but all of them subject to the king of Aquamboe, who indiscriminately uses an unlimited authority over them and the meanest of his subjects. His despotism gave rise to a proverbial saying, that "there are only two ranks of men at Aquamboe; the royal family, and slaves." The natives of this country are haughty, turbulent, and warlike; and their power is formidable to all the neighbouring nations. They grievously infest such nations as are tributaries to the king of Aquamboe, entering their territories by troops, and carrying off from the inhabitants whatever they think proper; nor do they ever meet with any opposition from the inhabitants, as they are sensible the king would not fail to resent this as an indignity offered to him.

AQUAPENDENTE. See FABRICIUS.

AQUARIANS, Christians in the primitive church who consecrated water in the eucharist instead of wine. This they did under pretence of abstinence and temperance; or, because they thought it universally unlawful to eat flesh or drink wine. Epiphanius calls them *Enkratites*, from their abstinence; St Austin, *Aquarians*, from their use of water; and Theodoret, who says they sprang from Tatian, *Hydroporastatæ*, because they offered water instead of wine.

Besides these, there was another sort of Aquarians, who did not reject the use of wine as unlawful; for they administered the eucharist in wine at evening service; but, in their morning assemblies, they commonly used water, for fear the smell of wine should discover them to the heathens.

AQUARIUS, the WATER-CARRIER, in *Astronomy*, the 11th sign in the zodiac, reckoning from Aries; from which also the 11th part of the ecliptic takes its name.—The sun moves through Aquarius in the month of January; it is marked thus, ♒.

The poets feign, that Aquarius was Ganymede, whom Jupiter ravished under the shape of an eagle,

and carried away into heaven, to serve as a cup-bearer, in the room of Hebe and Vulcan; whence the name.—Others hold, that the sign was thus called, because, when it appears in the horizon, the weather usually proves rainy.

The stars in the constellation Aquarius, in Ptolemy's catalogue, are 45; in Tycho's 41; in Hevelius's 47; in Flamsted's 108.

AQUARTIA. See BOTANY *Index*.

AQUATIC, in *Natural History*, an appellation given to such things as live or grow in water.

AQUATINTA, a method of etching on copper, lately invented, by which a soft and beautiful effect is produced, resembling a fine drawing in water colours or Indian ink.

Previous to the operation upon the plate, the following powder must be prepared.—Take of asphaltum and fine transparent rosin, equal parts, suppose two ounces of each, and pound them separately. Through a muslin sieve (which may be formed with part of a chipbox of three or four inches diameter) sift upon a sheet of paper a thin stratum of the asphaltum, above which sift a similar layer of the rosin, and upon this another layer of asphaltum, continuing these alternate layers till both of the powders are exhausted; then pass the mixture through the same sieve upon the paper once or twice, or till both appear to be sufficiently incorporated; when the powder is ready for use. Some, instead of the above mixture, use gum sandarach pounded.

The main process is as follows:—A copperplate being polished in the usual way, lay the etching ground upon it, and etch the outlines of your design in the manner directed under the article ETCHING: The ground is then to be softened with a little grease, and wiped off with a piece of rag: leaving, however, as much grease upon the plate as just to dim the copper. You now sift your powder upon the surface of the plate; after which, strike the other side of it pretty smartly against the edge of the table, in order to discharge it of the loose powder: This done, with a hand-vice hold the back of the plate over a chaffing dish of charcoal fire, till it become so hot as to give pain upon being touched with the back of the hand; and the powder which adhered to the grease will now be fixed to the plate. The plate being then suffered to cool, take turpentine varnish mixed with ivory black; and with a hair pencil dip in it, cover all the lights or places where there is no work or shades. A rim or border of bees-wax is now to be raised round the plate: Then having reduced the aquafortis to a proper strength by vinegar or water, you pour it on, and let it stand five minutes for the first or lightest shade: after which, pour it off; and having washed the plate with water, set it on edge to dry: Then with the varnish stop up your light shades, pour on the aquafortis for the second tint, and let it stand five minutes more; proceeding in the same manner for every tint till you produce the darkest shades. If a bold open ground is wanted in any part, this requires an after operation: The ground must be laid as the other, by sifting on the powder; only this powder is much coarser, and the plate must be much more heated in order that the particles of the powder may spread, and form small circles: even good clean rosin will do by itself.



Aquatinta  
||  
Aquila.

In etching landscapes, the sky and distant objects are also performed by a second operation, and the powder is sifted upon the plate with a finer sieve. If the trees or any part of the fore-ground require to be higher finished, the plate must be entirely cleansed from grease with bread, and a ground laid in the common way of etching; when you may finish as highly and neatly as you please with the needle or point, by stippling with dots, and biting up those parts, or by a rolling-wheel.

The preceding is the method for prints of one single tint. But if different colours are to be expressed, there will be required as many different plates, each plate having only the part etched upon it which is designed to be charged with its proper colour: unless (as may happen in particular subjects) some of the colours are so distant from each other as to allow the printer room to fill them in with his rubber without blending them; in which case, two or more different colours may be printed from the same plate at once.—Where different plates are necessary, a separate one, having a pin in each corner, must be provided as a sole or bottom to the aquatinta plates; and these again must be exactly fitted, having each a small hole in their corners for passing over the pins of the sole; the said pins serving the double purpose of retaining the plates successively in their due position, and of directing the printer in placing the paper exactly on each plate so as not to shift; by which means each tint or colour will be exactly received on its proper place.—This is the method practised at Paris. A landscape or similar subject, however, may be printed off at once in the different proper colours, by painting these upon the plate. In this case, the colours must be pretty thick in their consistence; and the plate must be carefully wiped in the usual way after the laying on of each tint, as well as receive a general wipe upon its being charged with all the tints.

This art is kept as secret as possible by those who practise it; and it is believed that no particular explanation or directions, before the present, have been communicated to the public. In order to succeed, however, great care and judgment are requisite; and much depends upon a certain nicety of management, which is only attainable by practice.

**AQUAVIVA**, a town of the kingdom of Naples, and province of Bari.

**AQUEDUCT**. See **AQUEDUCT**.

**AQUEOUS**, in a general sense, something partaking of the nature of water, or that abounds with it.

**AQUEOUS Humour**. See **ANATOMY**, p. 276.

**AQUILA**, in *Ornithology*, a synonyme of the eagle. See **FALCO**.

**AQUILA**, the **EAGLE**, in *Astronomy*, a constellation of the northern hemisphere; usually joined with Antinous. The stars in the constellation Aquila and Antinous, in Ptolemy's catalogue, are 15; in Tycho's 19; in Hevelius's 42; in the Britannic catalogue, 71.

**AQUILA**, a fine large city of Italy, and the capital of Abruzzo, seated on a hill, on the banks of the river Pescara, near its source. It has an ancient castle, and is a bishop's see immediately under the pope. The land about it produces great plenty of saffron. It was very near being all destroyed by an earthquake, in Fe-

bruary 1703. The first shock was so terrible, that the inhabitants abandoned the city; but returning to vespers, it being Candlemas day, the shocks followed one another with such violence, that 24,000 people perished, and great numbers were wounded; 800 were killed in one single church; many other churches, monasteries, noble buildings, and the townhouse, were either swallowed up or overturned, together with the greater part of the city and its walls. Aquila stands 30 miles from the sea, and about 16 from the confines of the pope's dominions. E. Long. 14. 20. N. Lat. 42. 20.

**AQUILEGIA, COLUMBINE**. See **BOTANY Index**.

**AQUILEIA**, a large city of the Carni, or Veneti, and a noble Roman colony, which was led thither between the first and second Macedonian wars, (Livy). It is washed by two rivers, the Natiso and Turrus, (Pliny). The reason of leading this colony was, in order to be a bulwark against the neighbouring barbarians. The colony was afterwards increased with 1500 families by a decree of the senate, (Livy); from which it became a very famous port town, (Herodian). The emperor Julian ascribes the appellation to the augury of an eagle at the time of building it; but Isaac Vossius on Mela, to the great plenty of water, as if the town were called *Aquilegia*. The harbour, at the mouth of the Natiso, is distant 60 stadia from the city; so that ships of burden are towed up the river, (Strabo). In 452 it was besieged by Attila with an innumerable host of barbarians. The walls were assaulted by a formidable train of battering rams, moveable turrets, and engines, that threw stones, darts, and fire; and the monarch of the Huns employed the forcible impulse of hope, fear, emulation, and interest, to subvert the only barrier which delayed the conquest of Italy. Aquileia was at that period one of the richest, the most populous, and the strongest of the maritime cities of the Hadriatic coast. Three months were consumed without effect in the siege; till the want of provisions and the clamours of his army compelled Attila to relinquish the enterprise, and reluctantly to issue his orders that the troops should strike their tents the next morning and begin their retreat. But as he rode round the walls, pensive, angry, and disappointed, he observed a stork preparing to leave her nest in one of the towers, and to fly with her infant family towards the country. He seized, with the ready penetration of a statesman, this trifling incident which chance had offered to superstition; and exclaimed, in a loud and cheerful tone, that such a domestic bird, so constantly attached to human society, would never have abandoned her ancient seats, unless those towers had been devoted to impending ruin and solitude. The favourable omen inspired an assurance of victory; the siege was renewed and prosecuted with fresh vigour; a large breach was made in the part of the wall from whence the stork had taken her flight; the Huns mounted to the assault with irresistible fury; and the succeeding generation could scarcely discover the ruins of Aquileia. The place, however, is still called *Aquileia*; and there are several inscriptions and antiquities to be seen in it, which are worthy of a traveller's notice; and, though dwindled into a poor village, it gives a title to the patriarch of Aquileia.

The

Aquilegia,  
Aquila.



**Aquilicium** ||  
**Aquimum.**  
The patriarch is named by the Venetians, and resides at Udino, because the town of Aquileia belongs to the House of Austria. E. Long. 13. 30. N. Lat. 46. 20.

**AQUILICIUM**, or **AQUILICIANA**, in *Roman Antiquity*, sacrifices performed in times of excessive drought, to obtain rain of the gods.

**AQUILINE**, something belonging to or resembling an eagle: Thus an aquiline nose is one bent somewhat like an eagle's beak.

**AQUILO**, is used by Vitruvius for the north-east wind; or that which blows at 45° from the north toward the east point of the horizon.—The poets gave the name *aquilo* to all stormy winds dreaded by the mariner.

**AQUILUS**, among the ancients, a dark, or dusky colour approaching to black. Hence some of the Heathen gods were called *dii aquili*, q. d. *nigri*.

**AQUIMINARIUM**, in *Antiquity*, a kind of lustral vessel, wherein the Romans carried their holy water for expiation and other religious offices.

**AQUINAS**, ST THOMAS, styled the *Angelical Doctor*, was of the ancient and noble family of the counts of Aquino, descended from the kings of Sicily and Arragon; and was born in the castle of Aquino, in the Terra di Lavora in Italy, in the year 1224 or 1225. He entered into the order of the Dominicans; and, after having taught school divinity in most of the universities of Italy, at last settled at Naples; where he spent the rest of his life in study, in reading of lectures, and in acts of piety; and was so far from the views of ambition or profit, that he refused the archbishopric of that city, when it was offered him by Pope Clement IV. He died in 1274, leaving an amazing number of writings, which were printed at Venice in 17 vols. folio, in the year 1490. He was canonized by Pope John XXII. in the year 1323; and Pius V. who was of the same order with him, gave him, in 1567, the title of the Fifth Doctor of the church, and appointed his festival to be kept with the same solemnity as those of the other four doctors. His authority has always been of great importance in the schools of the Roman Catholics. Lord Herbert, in his life of Henry VIII. tells us that one of the principal reasons which induced that king to write against Luther was, that the latter had spoken contemptuously of Aquinas.

**AQUINO**, PHILIP D', in Latin *Aquinas* or *Aquinius*, having turned from Judaism, had a pension from the clergy of France; and acquired much reputation by his knowledge of the Hebrew language, which he taught at Paris, in the reign of Louis XIII. and by the books he published, among which is his *Dictionary Hebræo-Chaldæo-Thalmudico-Rabbinicum*. His grandson, Anthony D'Anquin, was first physician to Louis XIV.

**AQUINO**, a town of Italy, in the kingdom of Naples, and Terra di Lavora; a bishop's see, but ruined by the emperor Conrade, and now consisting of about 35 houses. It was the birthplace of the poet Juvenal, and of Thomas Aquinas. E. Long. 14. 30. N. Lat. 41. 32.

**AQUINUM**, in *Ancient Geography*, a large municipal town, and a Roman colony on the borders of the Samnites, washed by the river Melpha (Strabo). The

Vol. II. Part II.

inhabitants are called *Aquimates*. Now *Aquino*, but almost in ruins, in the territory of Lavora. E. Long. 17. 11. N. Lat. 41. 35.

Aquitania  
||  
Arabia.

**AQUITANIA**, in *Ancient Geography*, one of the three principal divisions of Gallia Comata (Cæsar); bounded by the Garonne, the Pyrenees, and the ocean: this is the *Aquitania Cæsariana*, or *Vetus*. Augustus set the different boundaries, viz. the Loire, the Cevennes, the Pyrenees, and the ocean (Strabo). It was called *Gallia Aquitanica* (Pliny); and in the old Notitiæ, *Provincia Aquitanica*. The people are called *Aquitani* (Cæsar). Now comprising Guienne (which seems to be a corruption of Aquitania) and Gascony.

**AR**, in *Ancient Geography*, the metropolis of Moab, in Arabia Petrea (Moses); and the royal residence, situated on the east side of the river Arnon. It was called also *Rabba* (Joshua); and to distinguish it from Rabba of the Ammonites, *Rabbat Moab*, and on coins *Rabbat Moma* (Reland). Eusebius says it was called *Areopolis* in his time, from *Ar* and *Polis*. The inhabitants are called *Areopolite*. St Jerome says that this city was entirely destroyed by an earthquake when he was a young man.

**ARA THURIBULI**, the altar of incense, in *Astronomy*, a southern constellation, not visible in our hemisphere, consisting, according to Ptolemy, of seven stars; and according to Sharp's Catalogue, annexed to that of Mr Flamsted, of nine stars.

**ARA**, in *Astronomy*, a southern constellation, containing eight stars.

**ARAB**, or **ARABIAN HORSE**. See **EQUUS**.

**ARABESQUE**, or **ARABESK**, something done after the manner of the Arabians. *Arabesque*, *Grotesque*, and *Moresque*, are terms applied to such paintings, ornaments of friezes, &c. wherein there are no human or animal figures, but which consist wholly of imaginary foliage, plants, stalks, &c. The words take their rise from hence, that the Moors, Arabs, and other Mahometans, use these kinds of ornaments; their religion forbidding them to make any images or figures of men or other animals.

**ARABIA**, a country of Asia, famous from the remotest antiquity for the independency of its inhabitants during the vast conquests of the Assyrians, Persians, Greeks, and Romans; and, in later times, for being the centre of an empire equal, if not superior, in extent to any that ever existed.

This country, or at least the greater part of it, was whence in the earliest ages called *Arabab*. Concerning the named. etymology of this word there are various conjectures. It has most generally been derived from the Hebrew word אַרָב, signifying, *the well, mixture*, or *traffic*; but, according to M. Volney, *Arab*, in the ancient language of these countries, signifies a *solitude* or *desert*. In its largest extent, Arabia lies between the 12th and 35th degrees of N. Lat. and the 36th and 61st of E. Long. Its greatest length from north to south is about 1430 miles, and its breadth from east to west is 1200. It is bounded on the west by Palestine, part of Syria, the isthmus of Suez, and the Red Boundaries, sea, called by the Arabs the sea *Al Kolzum*; on the east by the Euphrates, the Persian gulf, and bay of Ormus; on the north, by part of Syria, Diyar Beer, Irak, and Khuzestan; and on the south by the straits of Babelmandel and the Indian ocean. It grows narrower



Arabia  
rower as we approach the frontiers of Syria and Diyar Beer: and, by reason of the proximity of the Euphrates to the Mediterranean, may be looked upon as a peninsula, and that one of the largest in the whole world.—Arabia Proper, however, is much narrower, including little more than what was comprehended by the ancients under the name of Arabia Felix, which we shall presently describe; and here the Arabs have been settled almost since the flood.

3  
Division. The first division of the peninsula of Arabia was into *Arabab* and *Kedem*, as we learn from Scripture; the first of which implies the west, and the other the east, denoting the situation of the two countries. Ptolemy was the first who divided the peninsula we speak of into three parts, Arabia Petraea, Arabia Deserta, and Arabia Felix, which division has generally prevailed since his time.

*Arabia Petraea*, on the east, was bounded by Syria and Arabia Deserta; on the west, by Egypt, or rather the isthmus of Suez which separates Asia from Africa, and the Hieropolitan gulf or western arm of the Red sea; on the north, by Palestine, the lake Asphaltites, and Coelosyria; and on the south by Arabia Felix. This tract did not admit of much cultivation, the greatest part being covered with dry sands, or rising into rocks, interspersed here and there with some fruitful spots. Its metropolis was Petra, which by the Syrians was styled *Rakam*, and in Scripture *Jokibeel*. Several other cities of Arabia Petraea are mentioned by Ptolemy; but as it is very improbable such a barren country should abound with large cities, we must look upon them as inconsiderable places.

*Arabia Deserta* was bounded on the north by the Euphrates, which separated it from the Mesopotamia; on the west, by Syria, Judaea, and Arabia Petraea; on the east, by a ridge of mountains which separated it from Babylonia and Chaldea; on the south, by Arabia Felix, from which it was likewise separated by several ridges of hills. By far the greatest part of this kingdom, as well as the former, was a lonesome desert, diversified only with plains covered with sand, or mountains consisting of naked rocks and precipices; nor were they ever, unless sometimes at the equinoxes, refreshed with rain. The few vegetables which they produced were stunted by a perpetual drought, and the nourishment afforded them by the nocturnal dews was greatly impaired by the heat of the sun in the day-time. Throughout the deserts were found huge mountains of sand, formed by the violence of the winds that continually blew over them in the day-time, though they ceased in the night. Wells and fountains were for the most part exceedingly rare; however, notwithstanding the sterility of these countries, the vast plains of sand just now mentioned were interspersed with fruitful spots, which appeared here and there like so many islands in the midst of the ocean. These being rendered extremely delightful by their verdure, and the more so by the neighbourhood of those frightful deserts, the Arabs encamped upon them: and having consumed every thing they found upon one, removed to another, as is the custom of their descendants the Bedowens at this day. These fruitful spots were likewise frequent in Libya, and by the Egyptians called *anases*, or *abases*, as we learn from Strabo. The barren part of Arabia Felix, bordering upon the Red sea,

Arabia. was in like manner interspersed with *abases*; which probably gave the name of *Abaseni* to a nation settled there, and in the adjacent fertile region. A body of these, it is said, crossing the straits of Babelmandel, passed into Ethiopia, which from them received the name of *Abassia*. From this account of Arabia Deserta, we may reasonably conclude, that the towns said by Ptolemy to have been situated in it were places of very little consequence.

*Arabia Felix* was founded on the north by the two kingdoms just described; on the south, by the Red sea; on the east and west, by part of that sea, together with the Arabian and Persian gulfs. In Strabo's time, it was divided into five provinces, by the oriental historians called *Yaman*, *Hejaz*, *Tchamab*, *Najd*, and *Yamama*. In this district stood several towns, particularly Nyfa, famous for being the birthplace of Bacchus; and Mufa, or Muza, a celebrated emporium or harbour, where the Arabian merchants resorted with their frankincense, spices, and perfumes. These two were situated in the province of Yaman. In that of Hejaz stood the still more famous cities of Mecca and Medina; also Thaisa or Taifa, Gjudda or Jodda, Yanbo or Al Yanbo, and Madian, the Modiana of Ptolemy, and the Midian or Madian of Scripture.

4  
When peopled. At what time the above-mentioned kingdoms were first peopled we have no certain accounts. The most considerable nations inhabiting Arabia Petraea, in the early ages, were the Ishmaelites, the Nabatai or Nabatheans, the Cedraei or Kedareni, and the Agareni or Hagareni; and of these the Ishmaelites were the most powerful, if they did not comprehend all the rest; and if the Hagareni were not the same people with them, they must at least have been nearly related. Kimehi, an oriental historian, insinuates, that they were originally the children of Hagar by an Arab, after she had left Abraham. In after ages, the names of all the nations situated here were absorbed in that of *Saraceni*; by which the Ishmaelites are distinguished in the Jerusalem Targum. A nation also is mentioned by Pliny, called *Arraceni*, and *Saraceni* by Ptolemy and Dioseorides, which was probably no other than the Ishmaelites above mentioned. In Arabia Deserta several tribes resided, all of whom were very obscure, except the Aisita and Agræi. The former are supposed by Bochart to have been Job's countrymen, and the latter to have been the same with the Hagareni, Arraceni, or Saraceni, above mentioned. Arabia Felix was inhabited by many different tribes; the most remarkable of which were the Sabæi, Gerræi, Minæi or Minnæi, Atramitæ, Maranitæ, Catabani, Ascitæ, Homeritæ, Sapphoritæ, Omanitæ, Saraceni, Nabathæi, Thamydeni, and Bnizomenæ; but neither their limits nor situation can now be determined with any manner of precision.

5  
Division of the Arabs. According to the oriental historians, the Arabs are to be divided into two classes; viz. the *old lost Arabians*, and the *present*. The most famous tribes among the former were those of Ad, Thamud, Tasm, Jades, Jorham, Amalek, Amtem, Hasbem, Abil, and Bar. Concerning these, though now entirely lost and swallowed up among other tribes, there are some remarkable traditions, of which the following may serve as a specimen.

The



Arabia. The tribe of Ad deduced their origin from Ad the son of Aws, or Uz, the son of Shem, who, after the confusion of tongues, settled in Al Abkaf, or the winding sands in the province of Hadramant, on the confines of Yaman, where his posterity greatly multiplied. Their first king was Sheddâd, the son of Ad, who built a stately palace, and made a delightful garden in the deserts of Aden, which he designed as an imitation of the celestial paradise. This garden he called *Irem*: and when it was finished, he set out with a great retinue to take a view of it; but, having some thoughts of assuming divine honours, he was destroyed by a tempest from heaven, while yet a day's journey from his paradise. The garden and palace, however, were preserved, though invisible, as a monument of divine vengeance.

6  
Tradition concerning the tribe of Ad.

After the death of Sheddâd, the kingdom of Ad was governed by a long series of princes, concerning whom many fables are related by the eastern writers. The conclusion of their history, however, is as follows. "The Adites, in process of time, falling from the worship of the true God into idolatry, God sent the prophet Hûd, supposed to be the same with Heber, to preach to and reclaim them. But they refusing to acknowledge his mission or to obey him, God sent a hot and suffocating wind, which blew seven nights and eight days, and entering at their nostrils passed through their bodies, and destroyed them all, a very few only excepted, who had listened to Hûd, and retired with him to another place." Others relate, "that, before this terrible catastrophe, they had been previously chastised with a three years drought; and therefore sent Kail Ebn Ithar, and Morthed Ebn Sdaa, with 70 other principal men to Mecca, then in the hands of the tribe of Amalek, whose prince was Moahwiyah Ebn Becr, to obtain of God some rain. Kail having begged of God that he would send rain to the people of Ad, three clouds appeared, a white, a red, and a black one; and a voice from heaven ordered him to choose which he would. Kail failed not to make choice of the last, thinking it would be laden with most rain; but when this cloud came over them, it proved to be fraught with the divine vengeance, and a tempest broke forth from it which destroyed them all.

7  
Arabs from whom descended.

The *present Arabs*, according to their own historians, are sprung from Kahtan, the same with Joktan, the son of Eber, and Adnan, descended in a direct line from Ishmael the son of Abraham. The former of these they called the *genuine* or *pure* Arabs, and the latter the *naturalized* or *insidious* Arabs.

Joktan the son of Eber had 13 sons, who some time after the confusion of languages settled in Arabia, extending themselves from Melha to Sephar, a mountainous place in the south-eastern part of that peninsula. According to the Arabian historians, he had 31 sons, all of whom left Arabia and went into India, except two, viz. Yarab and Jorham; the former of whom, they say, gave the name both to their country and language. Ishmael and his mother Hagar having been dismissed by Abraham, entered into the wilderness of Paran, as related in the book of Genesis. The sacred historian informs us, that during his residence in the wilderness he married an Egyptian; and the Arabian writers say that he also took to wife the daughter of Modab king of Hejaz, lineally descended from Jorham the founder

of that kingdom. By the Egyptian he was probably the father of the Scenite or wild Arabs; and having allied himself to the Jorhamites, he is considered by the Arabians as the father of the greatest part of their nation.

Arabia.

Kahtan, or Joktan, is said to have first reigned, and worn a diadem, in Yaman; but the particulars of his reign we nowhere learn. He was succeeded by Yarab already mentioned, he by Yashab, and Yashab by Abd Shems. He was successful in his expeditions against his enemies, carried off great spoils, and took many of them prisoners. He is said to have built the city of Saba or Mareb, and above it a stupendous mound or building, which formed a vast reservoir, containing all the water that came down from the mountains. By means of this reservoir the kings of Yaman not only supplied the inhabitants of Saba and their lands with water, but likewise kept the territories they had subdued in greater awe, as by cutting off their communication with it they could at any time greatly distress them.

8  
Joktan the first king.

Abd Shems was succeeded by his son Hamyar, from whom the tribe of Hamyar is said to take its name; and he by a series of 17 kings, concerning whom we have no remarkable particulars, except that from one of them, called *Africus*, the continent of Africa took its name. The last of these was succeeded by a daughter named *Balkis* or *Belkis*, whom some will have to be the queen of Sheba who paid a visit to Solomon. After Balkis came Malca, surnamed *Nasferolneam* on account of his magnificence and liberality. Having had bad success in an expedition, where his army was overwhelmed by torrents of sand, he caused a brazen statue to be erected, with the following inscription in the old Hamyaritic character: "There is no passage behind me, no moving farther; the son of Sharhabil." He was succeeded by Shamar Yaraash, so called on account of his being affected with a constant tremor. To this prince the city of Samarcand is said to owe its existence. After Shamar Yaraash we have a list of 15 kings, of whom nothing worth mentioning is recorded, except of one Abu Carb Afaad, who adorned the Caaba or temple of Mecca with tapestry, and first introduced Judaism among the Hamyarites. He was put to death by his subjects probably on account of religion. The last of the 15 kings above mentioned was called *Abraham*, who was succeeded by his son Sabban. He had that famous sword called *Samsannah*, which afterwards came into the hands of the caliph Al Rashid. This prince was succeeded by Dhu Shanater, who had six fingers on each hand. He was abandoned to unnatural lust, and dethroned for abusing some of the noblest youths in the kingdom. To him succeeded Yusef, who lived about 70 years before Mahomet. He persecuted all those who would not turn Jews, putting them to death by various tortures, the most common of which was throwing them into a glowing pit of fire; whence he had the appellation of the *lord of the pit*. This persecution is taken notice of in the Koran. The last of the Hamyaritic monarchs was Dhu Jadan, according to Abulfeda; but, according to others, the Yusef just mentioned, who was surnamed *Dhu Nowas* on account of his flowing curls, and was the last who reigned in an uninterrupted succession. He was a bigotted Jew, as already mentioned; and treated his subjects with

9  
Reservoir of Saba.

10  
Balkis supposed to be the queen of Sheba.

11  
Samarcand, by whom built.

12  
Yusef, a bloody persecutor.



Arabia.  
13  
His subjects  
call in the  
King of E-  
thiopia, who  
dethrones  
Yusef.  
14  
Christian  
religion es-  
tablished  
in Arabia.

15  
Ethiopians  
driven out.

16  
Terrible  
inundation  
by the  
breaking  
down of  
the refer-  
voir of  
Saba.

17  
Origin, &c.  
of the king-  
dom of Hi-  
ra.

18  
Of Ghassan.

such barbarity, that they were obliged to ask the assistance of Elesbaas, or Elasbaan, king of Ethiopia, against him. Dhu Nowas, not being able to make head against the Ethiopians, was at last driven to such extremity, that he forced his horse into the sea, and lost both his life and crown together.

The king of Ethiopia, having thus become master of Yaman, established there the Christian religion, and fixed upon the throne one Abryat an Ethiopian. He was succeeded by Abraha-Ebn-Al-Sabah, surnamed the *Sit-nosed*, from a wound he had formerly received in it. He was likewise styled *lord of the elephant*, from a story too ridiculous to deserve notice. He was succeeded by two other Ethiopian princes; but at last Sief Ebn Dhu Yazan, of the old royal family of Hamyar, having obtained assistance from the king of Persia, which had been denied him by the emperor Heraclius, recovered his throne, and drove out the Ethiopians; but was himself slain by some of them who were left behind. The succeeding princes were appointed by the Persians, till Yaman fell into the hands of Mahomet.

We have already taken notice of the vast mound or reservoir made by Abd Shems, from which he supplied the city of Saba with water. This building stood like a mountain above the city, and was by the Sabæans esteemed so strong, that they were under no fear of its ever failing. The water rose almost to the height of 20 fathoms; and was kept in on every side by a work so solid, that many of the inhabitants had their houses upon it. About the time of Alexander the Great, however, a terrible inundation happened. According to the Arabian historians, God being displeased at the pride and insolence of the inhabitants of this city, resolved to humble them; and for this purpose sent a mighty flood, which broke down the mound by night whilst the inhabitants were asleep, and carried away the whole city with the neighbouring towns and people. This inundation is styled in the Koran the *inundation of Al-Haram*; and occasioned so terrible a destruction, that from thence it became a proverbial saying to express a total dispersion, "that they were gone and scattered like Saba."—By this accident no less than eight tribes were forced to remove their habitations; some of which gave rise to the kingdoms of Hira and Ghassan.

The kingdom of Hira was founded by Malec, a descendant of Cahlan the brother of Hamyar; but after three descents, the throne came by marriage to the Lakhmians, who were descendants of Lakhm the son of Amru, the son of Abd Ems. These princes, whose general name was *Mondar*, preserved their dominion, notwithstanding some small interruption from the Persians, till the caliphate of Abu Becr, when Al Mondar Maghrur, the last of them, lost his life and crown by the arms of Khaled-Ebn-Al-Walid. This kingdom continued 622 years and eight months, according to Ahmed Ebn Yusef. Its princes were under the protection of the kings of Persia, and were their lieutenants over the Arabs of Irak, as the kings of Ghassan were for the Roman emperors over those of Syria.

The kingdom of Ghassan was founded by the tribe of Azd, who according to some, settling in Syria Damascena, near a water called *Ghassan*, from thence took their name; but others say they went under this appellation before they left Yaman. Having driven out

the Dajamian Arabs, who before possessed the country, they made themselves masters of a considerable territory. Here they maintained themselves, according to some 400, according to others 600, and according to Abulfeda 613 years, when the last of their kings submitted to the caliph Omar, and embraced the Mahometan religion; but receiving afterwards a disgust, soon returned to Christianity, and took refuge in Constantinople.

The kingdom of Hejaz was founded by Jorham the son of Kahtan, where princes of his line reigned till the time of Ishmael, who married the daughter of Modad one of those princes. Some authors relate that Kidar, one of Ishmael's sons, had the crown resigned to him by his uncles the Jorhamites: but, according to others, the descendants of Ishmael expelled that tribe; who, retiring to Johainah, were after various adventures destroyed by an inundation. After the expulsion of the Jorhamites, the government of Hejaz seems not to have continued long in the hands of one prince, but to have been divided among the heads of tribes, almost in the same manner as the Arabs of the desert are governed at this day. The tribe of Khozaab, after the above-mentioned inundation of Saba, fled into the kingdom of Hejaz, and settled themselves in a valley called *Marri* near Mecca. Here they founded an aristocracy, assuming to themselves both the government of the city of Mecca, and the custody of the Caaba or temple there. They continued masters of this city and territory, as well as presidents of the Caaba, for many ages, till at length one Kofa, of the tribe of Koreish, circumvented Abu Gabshan, a weak and silly man, of whom, while in a drunken humour, he bought the keys of the temple for a bottle of wine; but when Abu Gabshan grew cool, and reflected on his imprudence, he sufficiently repented of what he had done; whence the Arabian proverbs, "More vexed with late repentance than Abu Gabshan; More foolish than Abu Gabshan," &c. The tribe of Khozaab endeavoured afterwards to give some disturbance to the Koreish in the possession of the keys of the Caaba, which furnished the latter with a pretence for depriving them of the civil government of Mecca. After the Koreish had possessed themselves of this city, they kept up the same form of government which had prevailed there before. Besides these kingdoms, there were many others of lesser note, of which we find nothing remarkable.

Thus we have briefly mentioned the most memorable events recorded by the Arabian historians previous to the time of Mahomet; but, before entering upon an account of that famous impostor and the kingdom founded by him, it will be proper to take notice of several circumstances in different parts of the world, which at that time concurred to facilitate his scheme, and without which, in all probability, he would never have been able to accomplish it.

The first and great cause of Mahomet's success in his imposture, was the gross corruption and superstition with which the Christian religion was at that time obscured in all parts of the world. Had the pure doctrines of Christianity been then as publicly known as the ridiculous fopperies which deformed the Eastern and Western churches, Mahometanism could never have got a hearing. But along with the true religion, mankind seemed also to have lost the use of their rational

Arabia.

19  
Of Hejaz.20  
Tribe of  
Khozaab  
assumes the  
government of  
Mecca.21  
Folly of A-  
bu Gab-  
shan.22  
Causes of  
Mahomet's  
success.



Arabia.

rational faculties, so that they were capable of sval-  
 lowing the grossest absurdities; such as it now appears  
 almost incredible that any of the human race could  
 receive as truths. Another cause was, the manner of  
 government and way of life among the Arabs. Di-  
 vided into small independent tribes, they never were  
 capable of a firm union but by superstition; and had  
 Mahomet attempted their conquest in any other way,  
 it was impossible he could have succeeded. As there  
 were also among them Jews, Pagans, and Christians of  
 all sorts, this impostor, by adopting something out of  
 every religion then extant, cunningly recommended  
 himself to the professors of every one of them. Add  
 to all this, that by allowing of polygamy, and setting  
 forth his paradise as consisting in the enjoyment of wo-  
 men, he adapted himself to the corrupt dispositions of  
 mankind in general.

If the distracted state of religion favoured the de-  
 signs of Mahomet on the one hand, the weakness of  
 the Grecian and Persian monarchies assisted him no less  
 powerfully on the other. Had those once formidable  
 empires been in their vigour, either of them would have  
 been sufficient to crush Mahometanism in its birth; but  
 both of them were then strangely reduced. The Ro-  
 man empire had continued to decline after the time of  
 Constantine; the western parts of it were then entirely  
 overrun by the Goths and other barbarous nations;  
 and the eastern, or Greek empire, was so much re-  
 duced by the Huns on the one hand, and the Persians  
 on the other, as to be incapable of making any great effort.  
 The Persian monarchy itself was in little better con-  
 dition. It is true, they ravaged the dominions of the  
 Greeks, and often overcame them in the field; but  
 that was owing more to the weakness of the Grecian  
 empire, than to the strength of the Persians, and so  
 effectually did the intestine broils, which arose chiefly  
 on account of religion, weaken the kingdom of Persia,  
 that the most considerable part of it was annexed by  
 the caliph Omar to his dominions.

As the Greeks and Persians were then in a languish-  
 ing situation, so the Arabs were strong and flourishing.  
 Their country had been peopled at the expence of the  
 Grecian empire; whence the violent proceedings of the  
 different religious sectaries forced many to take refuge  
 in Arabia. The Arabs were not only a populous na-  
 tion but unacquainted with the luxuries and delicacies  
 of the Greeks and Persians. They were inured to hard-  
 ships of all kinds, and consequently much better fitted  
 than their effeminate neighbours to endure the fatigues  
 of war, as the event very fully verified.

23  
 Mahomet's  
 birth, de-  
 scent, &c.

Mahomet was born in the year of Christ, 569. Ac-  
 cording to the eastern historians, he was descended in  
 a direct line from Ishmael. Kedar, or, as the Arabians  
 call him *Kidar*, after his father Ishmael's death, com-  
 municated his name to the greatest part of Arabia Pe-  
 traea. He was succeeded in his authority and posses-  
 sions by his son Hamal; Hamal by Nabat, and Nabat  
 by Salaman. After Salaman came Al Homeifa, then  
 Al Yafa, whose son Odad was succeeded by Odd the  
 father of Adnan. Counting ten generations forward in  
 the same line, we come at last to Fehr, who seems to  
 have distinguished himself by some glorious actions, as  
 he was denominated *Koreish*, on account of his bravery.  
 He is to be considered as the root of the politest and  
 most celebrated tribe of the Arabs. He had three sons,

24  
 Fehr head  
 of the Ko-  
 reish.

Arabia.

Galeb, Mohareb, and Al Hareth. From Mohareb the  
 Banu Mohareb, denominated likewise *Sheiban*, took  
 their origin; from Al Hareth, the Banu Al Kholoj:  
 and from Galeb in a direct line, the impostor Mahomet.  
 Galeb was the father of Lowa; and he of Caab, whose  
 son Morrah had for his immediate descendant Kelab  
 the father of Kofa. It was this Kofa who aggrandized  
 the tribe of the Koreish, by purchasing the keys of the  
 Caaba from Abu Gabshan, as we have already related.  
 By this he not only aggrandized his tribe, but became  
 the prince of it himself. He was succeeded by his se-  
 cond son Abd Menaf, to whom the *prophetic light*,  
 which is said to have manifested itself in his face, gave  
 the right of primogeniture. Abd Menaf was succed-  
 ed by his son Amni, surnamed *Hashem*, or "one that  
 broke bread," on account of his singular generosity  
 during a famine at Mecca. Having amassed great sums  
 of money, he took a journey into Syria, where he pur-  
 chased a vast quantity of meal, which he made into  
 cakes, and divided with his own hands amongst the peo-  
 ple of Mecca. He likewise killed a prodigious number  
 of camels, with which he fed them, and relieved them  
 in the time of their distress; and finding that the soil  
 about Mecca was so barren as to produce no fruits  
 but what are common in the deserts, and consequently  
 no corn or grain, which the Meccans are obliged to  
 bring from other places, he appointed two caravans to  
 set out yearly for that purpose, the one in summer, and  
 the other in winter; by means of which the city was  
 amply supplied with provisions of all kinds. The pro-  
 visions brought by them, were distributed twice a year;  
 and Hashem, by his prudent conduct, raised the glory  
 of his people to the highest pitch; insomuch, that all  
 the neighbouring great men and heads of tribes made  
 their court to him. Nay, so great veneration is the  
 memory of Hashem held in by the Arabs, that from  
 him the family of Mahomet among them are called  
*Hashemites*; and he who presides over Mecca and Me-  
 dina, who must always be of the race of Mahomet, has  
 to this day the title of the "Chief or Prince of the  
 Hashemites."

25  
 Hashem's  
 generosity.

Hashem died at Gaza in Syria, and was succeeded  
 by his son Abdal Motalleb or Mateleb. He is said to  
 have been extremely affable and easy of access, as well  
 as just and generous to a great degree; so that, in the  
 beginning of the month *Ramadan*, he entertained the  
 poor upon the flat roof of his house, and afterwards  
 supplied the fowls of the air and wild beasts of the  
 field with provisions of various kinds, which he ordered  
 his servants to leave upon the summits of the neighbour-  
 ing mountains. The well which God showed to Hagar  
 in the wilderness is said to have been miraculously dis-  
 covered to Abdal Motalleb, about 500 years after it  
 had been filled up by Amru prince of the Jorhamites.  
 This well is by the Arabs called *Zemzem*; which some  
 derive from her calling to Ishmael, when she spied it,  
 in the Egyptian tongue, *Zem, Zem*, i. e. Stay, Stay;  
 though others ascribe it to a different origin. The  
 water of this well, which is on the east side of the  
 Caaba, and covered with a small building and cupola,  
 is highly revered; being not only drank with particu-  
 lar devotion by the pilgrims, but also sent in bottles  
 as a great rarity to most parts of the Mahometan do-  
 minions.

26  
 Well Zem-  
 zem disco-  
 vered by  
 Abdal Mo-  
 talleb.

Abdalla the father of Mahomet, was a younger son  
 of



Arabia.

of Abdal Motalleb, and remarkable for his beauty. In his 24th or 25th year, he married Amina, the daughter of Waheb, the son of Abdal Menaf. She is represented as the most beautiful, prudent, and virtuous lady of her tribe; and consequently the most worthy of such an extraordinary person as Abdalla. He died young, and, in his father's life-time, left his widow and infant son in very mean circumstances; his whole substance consisting only of five camels and one female Ethiopian slave. Abdal Motalleb was, therefore, obliged to take care of his grandson Mahomet; which he not only did during his life, but at his death enjoined his eldest son Abu Taleb to provide for him for the future. Abu Taleb was extremely kind to his nephew, and instructed him in the business of merchandise; for which purpose he took him into Syria when he was but 13 years of age, recommending him to Khadijah, a noble and rich widow, for her factor; in whose service he behaved so well, that she married him, and thus raised him to an equality with the richest in Mecca.

27  
Mahomet  
at first a  
merchant.

28  
Begins to  
brach his  
doctrine.

29  
Converts  
his wife and  
cousin, &c.

Though Mahomet had probably formed a design of introducing his new religion pretty early, he did not think proper to avow it till the 40th year of his age. The grand article of his faith was, the unity of the divine nature, which he pretended was violated by the Jews and Christians no less than by the Pagans; for which reason, he resolved to make an attempt to rescue the world from the ignorance and superstition which prevailed at that time. This reformation he intended should begin in his own family; and therefore, having retired with his household to a cave in Mount Hara, near Mecca, he there opened the secret of his mission to Khadijah; acquainting her that the angel Gabriel had just appeared to him, and told him that he was appointed the Apostle of God. He also repeated to her a passage which he said had been revealed to him by the ministry of the angel, with an account of many prodigies which happened at his birth (See МАНОМЕТ). This pretended revelation was received by Khadijah with the greatest joy; and in a kind of ecstasy she immediately communicated the good news to her cousin Waraka Ebn Nawfal, who, being a Christian, could write in the Hebrew character, and was pretty well versed in the Scriptures both of the Old and New Testament. He very readily came into her opinion, swore by God that what she said was true, and that "Mahomet was the great prophet foretold in the law by Moses the son of Amram."

Mahomet finding his first step so successful, as Waraka a very considerable person, began to entertain great hopes of accomplishing his design. He next converted his servant Zeid, to whom he gave his liberty on the occasion, which afterwards became a rule to his followers: and then Ali the son of Abu Taleb, though at that time only nine or ten years of age. This last, however, making no account of the other two, he used to call *the first of believers*. The next person he applied to was Abu Becr, a man of very considerable authority among the Koreish. He was easily gained over, and by his influence several others; so that Mahomet now made his mission no longer a secret. To Abu Becr he gave the name of *Al Saddik*, or *the faithful witness*; because he not only vouched for every thing he said, but also greatly increased the number of his

followers. Mahomet likewise complimented him with the title of *Alik*, or *preserved*; intimating thereby that he was certainly saved from hell fire.

Arabia.

Having given out that he was commanded from heaven to admonish his near relations, Mahomet directed Ali to prepare an entertainment, and invite to it the sons and descendants of Abdal Motalleb. He intended to open his mind to them; but Abu Laheb, one of Mahomet's uncles, making the company break up before the prophet had an opportunity of speaking to them, he was obliged to invite them again the next day. Having now proposed the matter, he asked which of them would become his wazir, prime minister, or vicegerent. This was accepted by Ali; upon which Mahomet said to him, "This is my brother, my deputy, and my (*caliph*) successor, or vicar; therefore show yourselves submissive and obedient to him." At this speech all the company fell a-laughing, telling Abu Taleb that he must now pay obedience and submission to his own son. Notwithstanding this repulse, however, Mahomet was so far from being discouraged, that he began to preach to the people in public. They heard him with some patience till he began to upbraid them with the idolatry, obstinacy, and perverseness of themselves and their fathers; which so highly provoked them, that they openly declared themselves his enemies, except some few who were converted. The prophet was now protected by the authority of his uncle Abu Taleb; who, however, was earnestly solicited to persuade his nephew to desist, and at last threatened with an open rupture in case he could not prevail on him so to do. This had such an effect upon Abu Taleb, that he advised his nephew not to push the matter any farther; representing the great danger he and his followers would otherwise run: but our prophet was not to be so intimidated; and told his uncle plainly, that "if they set against him the sun on his right hand, and the moon on his left, he would not abandon his enterprise." Abu Taleb, therefore, finding him so firmly resolved, used no further arguments, but promised to stand by him to the utmost of his power: so that notwithstanding the people of his tribe came to a determination to expel both Mahomet and his followers, he found a powerful support in his uncle against all their machinations.

30  
Rejected by  
the Koreish.

31  
His resolu-  
tion.

Mahomet now entered upon his apostolic function with uncommon diligence and application; and soon gained over his uncle Hamza, and Omar Ebn Al Khattah, a person very much esteemed, and who before had been his violent opposer. Notwithstanding this success, however, the Koreish continued their opposition, and came to a resolution to proscribe all who had embraced Mahomet's doctrine. In consequence of this resolution, the *Moslems*, as his followers were called, were now treated with such severity, that they found it no longer safe to continue in Mecca; nay, several of them in the fifth year of his mission found themselves obliged to fly into Ethiopia, where they were kindly received by the Najashi or king of that country, who refused to deliver them up to those whom the Koreish sent to demand them. At this refusal they were so exasperated, that they came to a resolution to suppress effectually the new religion which had now made a considerable progress. In order to this, they entered into a solemn league or covenant against the Haslemites,

32  
His follow-  
ers persecu-  
ted.



Arabia. Hasphemites, and the family of Abdal Motaleb in particular, engaging themselves to contract no marriages with them, nor to have any manner of communication with them otherwise; and, to give this the greater weight, they reduced it into writing, and laid it up in the Caaba. Upon this the tribe became divided into two factions; and all the family of Hasphem, both Moslems and unbelievers, repaired to Abu Taleb as their head; except only Abdal Uzza, surnamed Abu Lahab, the son of Abdal Motaleb, who, out of hatred to his nephew and his doctrine, went over to the opposite party. After this the authority of Abu Taleb was scarce sufficient to protect Mahomet from the fury of the Koreish; who, according to Al Jannabi, made frequent attempts upon him; sometimes endeavouring to destroy him by force, at other times by secret wiles and machinations: nay, to compass their end, he tells us that they had recourse to magic, enchantments, and diabolical illusions. In short, they gave him at last so much trouble, that he was obliged to change his habitation, and seek a new asylum for himself and his companions. This he found in the house of one Orkam, which was advantageously situated on a hill called *Safa*. Here he converted Orkam's family, and the house was afterwards held in high estimation by the Moslems.

The two factions into which the tribe of Koreish was divided subsisted for five years, when they were put an end to by a very strange accident. Mahomet told his uncle Abu Taleb, that God had manifestly showed his disapprobation of the covenant entered into against them, by sending a worm to eat out every word of the instrument except the name of God. With this particular Abu Taleb immediately acquainted the Koreish; offering, in case it proved false, to deliver up his nephew to them; but if it should prove true, he insisted that they ought to lay aside their animosity, and annul the league they had made against the Hasphemites. To this they acquiesced; and going to inspect the writing, found it to be as Abu Taleb had told them; the words "In thy name, O God," being the only ones which remained. On so remarkable a proof of the divine displeasure, the league was immediately annulled, and all acts of hostility between the two parties ceased.

After this memorable event Mahomet remained with his uncle Abu Taleb, who survived the reconciliation only about eight months. The same year also died Khadijah, Mahomet's wife. Her death, as well as that of his uncle, proved a great detriment to his affairs; for the Koreish, notwithstanding the former reconciliation, began now to persecute him with more violence than ever. He was therefore obliged to fly for shelter to Al Tayef; which he chose on account of its being the residence of his uncle Al Abbas, whose protection he imagined he would be able to secure. In this, however, he found himself mistaken: and though he staid a month in the city, during which time he gained over a few, yet at last the lower sort of people rose against him, and obliged him to return to Mecca. This refusal, though it greatly discouraged the new converts, did not in the least abate the zeal of Mahomet: on the contrary, he continued to preach boldly to the public assemblies at the pilgrimage to Mecca, exclaiming against idolatry, and particularly against the worship of two idols Allat and Al Uzza, to which the tribes,

especially the women of that of Thakif, were very much addicted. By this the prophet was often exposed to great danger: however, he gained some converts, and amongst 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 immediately to embrace it. These converts of the tribe of Khazraj are by the Arab writers called *Ansars*, *Al Ansarii*, or *Ansars*; that is, assistants, favourers, supporters, &c. because they assisted and supported the prophet when he was pursued to the very brink of destruction. They first met Mahomet on a little hill called *Al Akabah*, where a temple stood, and where they first took an oath to exert themselves in support of their new apostle and his religion. An uninterrupted friendship and harmony reigned for a long time amongst the members of the Jewish tribes of Khazraj, Koricidha, and Nadir, whose great progenitor, say the Arabs, was Aaron the son of Amram. Mahomet therefore insinuating himself into the good graces of the Ansars, they readily embraced his religion, and proved of very considerable service.

The next remarkable thing recorded of Mahomet is the invention of his night journey to heaven. This he probably intended to supply the place of miracles. The absurdities contained in that relation, however, are so great, that when he related it to his uncle Al Abbas, and Omm Hana the daughter of Abu Taleb, they endeavoured to dissuade him from making it public. This advice he was so far from following, that he related the whole to Abu Jahl, one of his most inveterate enemies, who ridiculed him for it, and placed the story in such a ridiculous light to the Koreish, that they were on the point of insulting him; several of his followers also left him; and the whole design had probably been ruined, had not Abu Becr vouched for his veracity, and declared, that, if Mahomet affirmed it to be true, he firmly believed the whole. This declaration not only retrieved the prophet's credit, but increased it to such a degree, that he was sure of making his disciples swallow whatever he pleased; and on this occasion it is said by some that he gave Abu Becr the name of the *faithful witness*, as we have already related.

In the twelfth year of Mahomet's mission, twelve men of Yathreb, or Medina, of whom ten were of the tribe of Kharaj, and two of that of Aws, came to Mecca, and took an oath of fidelity to the prophet at the hill Al Akabah. When they had solemnly engaged to do all required of them, Mahomet sent one of his disciples, named *Masab Ebn Omair*, home with them, to instruct them more fully in the grounds of their new religion. Masab being arrived at Medina, with the assistance of the new profelytes, gained several others; and acquainting Mahomet with the success of his mission, desired leave to form a congregation of Moslems at Medina. This the prophet readily granted; in consequence of which, the new Moslems regularly assembled, to the number of forty persons, in the house of Saad Ebn Khaithama. The next year Masab returned to Mecca, accompanied by 73 men and two women of Medina, who had professed Mahometanism, besides several others who were yet unbelievers. On their arrival they sent immediately to Mahomet, and offered

<sup>33</sup> The Koreish enter into a league against him.

<sup>34</sup> Their writing destroyed by a worm.

<sup>35</sup> Mahomet still persecuted by the Koreish.

Arabia. <sup>36</sup> who.

<sup>37</sup> Mahomet's journey to heaven.

<sup>38</sup> almost proves the ruin of his cause.

<sup>39</sup> Congregation of Moslems formed at Medina.



Arabia.

offered him their assistance, of which he now stood in the greatest need; for his adversaries were by this time grown so powerful in Mecca, that he could not stay there much longer without imminent danger. He therefore accepted their proposal, and met them one night by appointment at the hill Al Akabah. At this interview he was attended by his uncle Al Abbas; who, though then an unbeliever, wished his nephew well, and made a speech to the people of Medina; wherein he told them, that as Mahomet was obliged to quit his native city and seek an asylum elsewhere, and as they had offered him their protection, they would do well not to deceive him; and if they were not firmly resolved to defend, and not to betray him, they had better declare their minds, and let him seek for protection somewhere else. Upon their protesting their sincerity, Mahomet swore to be faithful to them, a part of the Koran being read to all present, on condition they should protect him against all insults, as heartily as they would do 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; upon which they pledged their faith to him, after Mahomet had chosen twelve out of their number, who were to have the same authority under him that the twelve apostles had under Christ.

Finding now a confederacy formed in his favour, our prophet began to pull off the mask as to his true sentiments concerning the means of reformation. Hitherto he had propagated his religion by fair means only; and in several passages of the Koran, which he pretended were revealed before this time, he declared, that his business was only to preach and admonish; that he had no authority to compel any person; and that whether they believed or not, was none of his concern, but belonged solely to God. But no sooner did he find himself enabled, by the alliance above mentioned, to resist his enemies, than he gave out that God had allowed him and his followers to defend themselves; and at length, as his forces increased, he pretended not only to have leave to act on the defensive, but to attack the infidels, destroy idolatry, and set up the true religion by the power of the sword. To this he was excited by an apprehension that pacific measures would greatly retard, if not entirely overthrow, his designs; and therefore he determined to use the most violent methods to convert the Pagan Arabs, or rather to extend his own authority.

40  
The Koreish resolve to put Mahomet to death.

The Koreish, in the mean time, finding that Mahomet had considerably extended his influence, and hearing of the league concluded with the Ansars, began to think it absolutely necessary that he should be prevented from escaping to Medina; and, in order to do this the more effectually, they resolved in a council, wherein it is said the devil assisted in person, to put an end to his life. To accomplish this with the greater safety, they agreed that a man should be chosen out of every tribe, and that each should have a blow at him; that so the guilt of his death might fall equally on all the tribes; and thus the Hashemites would be prevented from attempting to revenge the death of their kinsman, as they were much inferior in power to the rest of the tribes put together. Mahomet now directed his companions to repair to Medina, where, in consequence

of the late treaty, they might be assured of protection. This they accordingly did: but he himself, with Abu Becr and Ali, remained behind; not having received, as he pretended, the divine permission to retire. Here he narrowly watched the motions of the Koreish, and was soon apprized of their machinations: for the above-mentioned 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 also commanded him to retire from Mecca. The conspirators were already assembled at the prophet's door; but he, to amuse them, ordered Ali to lie down in his place, and wrap himself in his green cloak: this Ali complied with, and Mahomet miraculously, according to the Arabs, escaped to the house of Abu Becr. The conspirators, in the mean time, perceiving through a crevice Ali wrapped up in the green cloak, took him for Mahomet himself, and watched there till morning, when Ali arose, and they found themselves deceived. The prophet next retired in company with Abu Becr to a cave in Mount Thur, a hill a little south of Mecca. Here he had a still more narrow escape; concerning which we have the following account from an Arabic tradition.

Arabia.

"The Koreish having detached a party from Mecca to reconnoitre the mouth of the cave, when they came there, found it covered by a spider's web, and a nest built at the entrance by two pigeons, which they saw, and which had laid two eggs therein. On sight of this they reasoned with themselves in the following manner: "If any person had lately entered this cavern, the eggs now before us would infallibly have been broken, and the spider's web demolished; there can therefore be nobody in it:" after which they immediately retired. As the prophet, therefore, and his friend, were now saved so miraculously by means of the pigeon's eggs and the interposition of the spider's web, he afterwards enjoined his followers, in memory of so remarkable an event, to look upon pigeons as a kind of sacred animals, and never to kill a spider."

41  
He outwits them, and escapes.

42  
In great danger at Mount Thur.

The prophet and Abu Becr having staid in this cave three days in order to recover a little from their consternation, set out for Medina; but the Koreish, being informed of the route they had taken, sent a party after them, under the command of Soraka Ebn Malec. These overtook them; and, as the Arab historians tell us, Soraka's horse fell down when he attempted to seize Mahomet. Upon this he recommended himself to the prophet's prayers, and remounted his horse without hurt: but, as he still continued the pursuit, his horse fell down with him a second time; upon which he returned to Mecca, without offering any farther violence: and Mahomet, thus happily delivered from the greatest dangers, arrived without farther molestation at Medina, where he was received with the greatest demonstrations of joy.—This flight of the prophet from Mecca to Medina was reckoned so remarkable by the Moslems, that they made it the era from whence all their remarkable transactions were dated, calling it the *Era of the Hegira*, or *flight*. The beginning of the Hegira corresponded with the 16th of July, A. D. 622.

43  
He is pursued and overtaken, but still escapes.

44  
Era of the Hegira.

On Mahomet's arrival at Mecca, his first care was to build a mosque for his religious worship, and a house for himself. The city of Medina at that time was inhabited



Arabia. habited partly by Jews and partly by heretical Christians, that formed two factions which persecuted one another with great violence. This gave the impostor such an opportunity of propagating his new religion, that in a short time the city was entirely at his devotion. Here he strengthened himself by marrying Ayesha the daughter of Abu Becr, though then only seven years of age, and gave his own daughter Fatima in marriage to Ali, the son of Abu Taleb. The next point he had in view was the union of the Mohajerin, or those who fled from Mecca on account of their religion, with the Ansars above mentioned. To facilitate this, after his mosque and house were finished, he established among the Moslems a fraternity, the principal statute of which was, that they should not only treat one another like brethren, but likewise most cordially love and mutually cherish one another to the utmost of their power. But lest even this should prove insufficient, he coupled the individuals of the two bodies of Ansars and Mohajerin; and this was the last transaction of the first year of the Hegira.

45  
Union of  
the Ansars  
and Mohajerin.

The next year was ushered in, according to Abulfeda, with a change of the *Kebla*, or place whither the Mahometans were to turn their faces in prayer. At first it had been declared to be perfectly indifferent where they turned their faces. Afterwards he directed them to pray with their faces towards the temple of Jerusalem, probably with a view to ingratiate himself with the Jews; and now, in order to gain the Pagan Arabs, he ordered his followers to pray with their faces towards the east. This inconstancy gave great offence, and occasioned the apostasy of many of his disciples. About this time Mahomet receiving advice that a rich caravan of the Koreish was on the road from Syria to Mecca, he detached his uncle Hamza, at the head of 30 horse, to seize upon it; who accordingly lay in wait for it in one of the woods of Yamama, through which it was to pass: here, however, he was informed that the caravan was guarded by 300 men, so that he returned without making any attempt; but the prophet made the proper dispositions for acting hereafter against the Koreish with success. This year also Mahomet sent out a party of 60 or 80 horse, all Mohajerin, except one who was an Ansar, to make reprisals on the Koreish. They were met by a party of their enemies, and both sides immediately prepared for an engagement: however, they parted without bloodshed, except one of the Koreish, who was killed by an arrow shot by one of the Moslems.

Mahomet having now put himself into an offensive posture, began in earnest to make reprisals on the Koreish. His first exploit was the taking of a caravan attended by a small guard; and this being accomplished by a party consisting only of nine men, contributed greatly to encourage the Moslems. But what most established the impostor's affairs, and was indeed the true foundation of all his future greatness, was his gaining the battle of *Bedr*; of which we have the following account.—The prophet being informed that Abu Sofian Ebn Harb escorted a caravan of the Koreish with only 30 or 40 men, resolved to advance at the head of a small detachment of his troops to intercept it. To this he was excited by the riches of the caravan, which consisted of a large quantity of merchandise, consisting of the riches of Syria, carried on the

backs of a thousand camels. He therefore sent out a party to reconnoitre it, with orders to wait in some convenient place, where they might remain undiscovered. But Abu Sofian having notice of Mahomet's motions, despatched a courier to Mecca, requesting succours from his countrymen, that he might be able to defend the caravan. Upon this Mahomet drew together all his forces, which amounted to no more than 313, while his enemies consisted of very near 1000, Abu Sofian having been reinforced by the Meccans with 950 men. The two armies did not long remain in a state of inaction: but before the battle three champions from each party engaged each other in single combat. In this the Moslem champions were victorious, and the event greatly discouraged the Koreish, Mahomet, in the mean time, taking advantage of this lucky event, offered up his prayers to God with great fervency and vehemence; after which, feigning himself in a trance, he pretended that God had assured him of victory. Then throwing a handful of dust or gravel towards the enemy, he cried out, "May the faces of them be confounded;" and attacked the Koreish with such bravery, that they were soon put to flight, leaving 70 dead on the spot, and having as many taken prisoners. The loss on Mahomet's side was only 14 men, and among the prisoners was Al Abbas, the prophet's uncle.

Though this action may seem of little consequence in itself, it was of very great advantage to Mahomet's affairs at that time. He was immediately treated with the highest respect by the Najasli, or king of Ethiopia, who received a particular account of the victory soon after it was gained; while the superstitious Moslems did not fail to look upon it as an evident declaration of heaven in their favour. Nay, notwithstanding the small number of enemies to be overcome, and who were only mortal men, these ignorant bigots did not hesitate to own the assistance of no less than 4000 angels, who, according to them, rode on black and white horses, having on their heads white and yellow sashes, that hung down between their shoulders.

Notwithstanding this disaster, however, Abu Sofian made a pretty good retreat, and conducted the greatest part of the caravan to Mecca. This chagrined the Moslems, though they found great spoil on the field of battle; the division of which had likely to have proved fatal to their cause, by the quarrels that it occasioned among them. So violent, indeed, were the disputes on this occasion, that the impostor was obliged to pretend an immediate revelation from heaven, empowering him to retain a fifth part for religious purposes, and to distribute the rest equally. This became a law for his successors; but, with regard to himself, the prophet often took the liberty of infringing it; for which, no doubt, a new revelation was always a ready and convenient salvo. As for those who were slain on Mahomet's part in this battle, they were all looked upon by the Moslems as martyrs; and the prophet perceiving among the prisoners two of his inveterate enemies, immediately caused their heads to be struck off.

The Koreish, in order to be revenged on Mahomet for their late defeat at *Bedr*, sent Amru Ebn Al As, who afterwards conquered Egypt, with some other of their principal people, on an embassy to the king of Ethiopia,

Arabia.

47  
His law  
concerning  
the division  
of spoils.

46  
Mahomet  
takes a ca-  
ravan, and  
gains the  
battle of  
*Bedr*.



Arabia.

Ethiopia, in order to interest him in their quarrel. To do this the more effectually, they accused Mahomet and his followers of speaking disrespectfully of Jesus and his mother MARY; which accusation they hoped would likewise induce him to deliver up the Moslem refugees that were then at his court. But the bad success that had attended the arms of the Koreish hitherto, joined to the excuses made by the refugees, not only hindered the Najashi from delivering them up, but also prompted him to dismiss the ambassadors, and return the presents they had brought him. In the mean time, Abu Sofian, who had sworn never to use perfumes or enjoy women till he had another battle with Mahomet, set out from Mecca with a body of 200 horse. He advanced to a post within three miles of Medina; from whence he sent a detachment, who burnt a barn, together with a man in it that was winnowing wheat. Mahomet being informed of this outrage, moved immediately towards him with a detachment of cavalry; but Abu Sofian was so intimidated by his approach, that he fled with precipitation, leaving behind him all the sacks of flour or meal that had been brought for the subsistence of his troops. Instead therefore of coming to an engagement with the impostor, as he had sworn, he contented himself with alarming the country, and pillaging such as he suspected of favouring Mahometanism.—This year also Mahomet conquered the tribes called *Banu Solaim*, *Ghatfan*, and the *Banu Kainoka*; plundering likewise a rich caravan belonging to the Koreish, and acquiring from thence 25,000 dirhems for his own share of the plunder.

48  
Abu Sofian's cowardice.

In the year of Christ 625, being the third of the Hēgira, the Koreish assembled an army of 3000 men, among whom were 200 horse and 700 armed with coats of mail. The command of this army was given to Abu Sofian, who was attended by his wife Henda Bint Otba, and sat down at a village about six miles distant from Medina. Mahomet, being much inferior to the enemy, resolved at first to keep himself within the town, and receive them there; but afterwards, by the advice of his companions, marched out against them at the head of 1000 according to some, 1050 according to others, or, as some say, only 900 men. Of these 200 were cuirassiers; but he had only one horse besides his own in the whole army. He distributed three standards among his troops; of which one was given to the tribe of Aws, another to that of Khazraj, and the third to the Mohajerin. The grand standard was carried before the prophet by Mosaab Ebn Omair. With these forces Mahomet formed a camp in a village near Ohod, a mountain about four miles north of Medina, which he contrived to have on his back; and the better to secure his men from being surrounded, he placed 50 archers, the flower of his troops, in the rear, with strict orders not to quit their post. On the other hand, the army of the Koreish was drawn up in the form of a crescent, and made a very good appearance. The right wing was commanded by Khaled Ebn Al Walid, afterwards so terrible to the Greeks; the left by Acrema Ebn Abu Jahl; and the centre by Abu Sofian. The corps de reserve was headed by Abu Sofian's wife, accompanied by 15 other matrons, who performed the office of drummers,

49  
Battle of Ohod.

lamenting the fate of their countrymen slain at Bedr, in order to animate the troops who attended them. The attack was begun by the Moslems, who fell upon the enemy with such fury, that their centre immediately began to give way. Ali, or, according to Abulfeda, Hamza, slew Artā the enemy's great standard-bearer; which struck them with such terror, that they soon betook themselves to flight, falling foul upon their own corps de reserve. Victory had now been no longer doubtful, notwithstanding the vast inferiority of Mahomet's troops, had not the 50 archers, contrary to the prophet's express command, quitted their post to pillage the enemy. Upon this Khaled, perceiving the Moslem army to be greatly exposed, attacked them in the rear with such bravery, that he turned the fortune of the day. Not content with putting the troops there in disorder, he cried out with all his might, "Mahomet is slain;" and this had such an effect upon the Moslems, that they immediately took to their heels, nor could the utmost endeavours of the prophet himself afterwards rally them. He therefore found himself obliged to quit the field of battle; in doing which he was very near losing his life, being struck down by a shower of stones, and wounded in the face by two arrows, which occasioned the loss of two of his fore-teeth. He likewise received a contusion on his upper lip; and had even been killed on the spot, had not one of his companions, named *Telha*, Abu Becr's nephew, received a blow that was levelled at him. On this occasion *Telha* received a wound in his hand, which deprived him ever after of the use of some of his fingers. Of the Moslems 70 were slain; among whom were Hamza the prophet's uncle, and Mosaab the standard-bearer. Amongst the wounded were Abu Becr, Omar, and Othman; but as soon as they understood that the prophet was safe, they returned to the charge with a considerable body, and, after an obstinate dispute, carried him off. The good retreat made by these champions so discouraged the troops of Abu Sofian, that they did not pursue the flying enemy, but contented themselves with remaining masters of the field of battle; nor did that general, though he exulted not a little in his victory, make any further use of it than to give Mahomet a challenge to meet him the next year at Bedr, which was accepted; and after his return to Mecca, he desired a truce with the Moslems, which was readily granted.

Arabia.

50  
Mahomet defeated.

This defeat had like to have proved the total ruin of the impostor's affairs, and must inevitably have done so had the conquerors made the least use of their victory. Some of his followers now asserted, that had he been really a prophet sent from God, he could not have been thus defeated: and others were exasperated on account of the loss of their friends and relations who had been slain in the late engagement. To still the murmurs of the former, he laid the blame on the sins of those who had accompanied him; and, to pacify the latter, he pretended a revelation from heaven, wherein the period of all men's lives was said to be unalterably fixed without regard to their own actions, or to any external objects; so that those who were killed in battle behaved to have died, though they had remained at home in their own houses. By the assistance of this last doctrine he encouraged his followers to fight, with

51  
He apologizes for his defeat.

out



Arabia. out fear, for the propagation of their faith, as all their caution would not be sufficient to avert their destiny, or prolong their lives even for a single moment.

The next year, (A. D. 626), Mahomet, besides several other less considerable successes, reduced a fortress belonging to the Jewish tribe of Al Nadir, who had revolted on account of the defeat at Ohod: on this occasion, by an express revelation, as he pretended, he kept the whole booty to himself: and, about the same time, forbade his followers the use of wine, or to play at games of chance, on account of the disturbances and quarrels which were likely to be excited by that means among them. This year also he marched with a body of infantry to Bedr, to meet Abu Sofian, as he had promised the year before: but that general's heart failing him, he returned home without facing the prophet; and this piece of cowardice the Moslems did not fail to impute to a terror sent immediately from God. The year following, however, the Koreith, in conjunction with the tribe of Ghatfan, and the Jews of Al Nadir and Koreidha, assembled an army of 12,000 men, with which they formed the siege of Medina; thus threatening the impostor and all his followers with utter destruction at once. On the enemy's approach, Mahomet, by the advice of a Persian named *Salman*, ordered a deep ditch to be dug round the city, and went out to defend it with 3000 men. The Arabs having invested the town, both sides remained in a state of inactivity for some time; which was so well employed by the impostor, that he found means to corrupt some of the leading men in the enemy's camp. The good effects of this soon appeared; for a champion having advanced to the Moslem intrenchments, and challenged the best man in their army to fight him in single combat, the challenge was immediately accepted by Ali, who slew him and another that came to his assistance; after which, those who had been corrupted by Mahomet's agents so soured a considerable part of the forces, that they deserted their camp; upon which all the rest were obliged to raise the siege and return home.

The prophet, being now happily delivered from the most powerful combination that had ever been formed against him, was visited by the angel Gabriel; who asked him, whether he had suffered his men to lay down their arms, when the angels had not laid down theirs? ordering him at the same time to go immediately against the tribe of Koreidha, and assuring him that he himself would lead the way. Upon this Mahomet immediately set out for the fortress of the Koreidhites, and pushed on the siege with so much vigour, that, though it was deemed impregnable, he obliged the garrison to capitulate in 25 days. The Koreidhites, not daring to trust themselves to the impostor's mercy, surrendered at discretion to Saad Ebn Moadh, prince of the tribe of Aws, hoping that he, being one of their old friends and confederates, would have some regard for them. Here, however, they found themselves disappointed; for Saad, being highly provoked at them for assisting the Koreith while in league with Mahomet, ordered the men to be put to the sword, the women and children made slaves, and their goods divided among the Moslems. This sentence was no sooner heard by Mahomet, than he cried out that Saad had pronounced the sentence of God; and, in consequence of this decision, ordered the men, to the number of

600 or 700, to be immediately massacred. The women and children were also carried into captivity. Their immoveable possessions were given to the Mohajerin, and the goods divided equally.

Mahomet now continued to be successful, gradually reducing the Arab tribes one after another. In 628, he sent an agent to Constantinople, desiring leave of the Greek emperor to trade with his subjects; which was immediately granted. The same year also he concluded a peace for ten years with the inhabitants of Mecca, and obtained liberty the next year to perform his devotions at the Caaba. What tended considerably to bring about this pacification was an account brought to the Koreith by one whom they had sent with an actual defiance to Mahomet, of the prodigious veneration which their followers had for him. This messenger acquainted them that he had been at the courts both of the Roman emperors and of the kings of Persia, but never saw any prince so highly respected as Mahomet was by his companions. Whenever he made the ablution, in order to say his prayers, they ran and caught the water which he had used; whenever he spit, they licked it up, and gathered up every hair that fell from him, with great veneration. This intimated how desperately they would fight in his defence, and probably inclined his enemies to avoid hostilities. In 629, the impostor began to think of propagating his religion beyond the bounds of Arabia, and sent messengers to several neighbouring princes to invite them to embrace Mahometanism; but, before sending the letters, he caused a silver seal to be made, on which were engraved in three lines the following words, "MAHOMET THE APOSTLE OF GOD." This seal he believed would procure the letters to which it was affixed a more favourable reception at the courts of those princes whither they were directed. The first to whom he applied was Khofru Parvis; the king of Persia; but he, finding that Mahomet had put his own name before his, tore the letter in pieces, and sent away the messenger very abruptly. He also sent a letter to the same purpose to Constantinople; but though the emperor Heraclius dismissed his messengers honourably, he refused to abandon the Christian faith. Besides these, he wrote five other letters, which he distributed among those who he thought would be most likely to acknowledge him for an apostle. However, we do not hear that by means of letters he ever introduced his religion into a foreign country.— But while our impostor was thus going on in the full career of success, and industriously propagating his infamous falsehoods by all the means he could think of, he was poisoned by a maid, who wanted, as she said, to make an experiment whether he was a prophet or not. This was done by communicating some poison to a shoulder of mutton, of which one of his companions, named *Bashar Ebn Al Bara*, eating heartily, died upon the spot; and Mahomet himself, though he recovered a little, and lived three years after, yet never enjoyed perfect health. Notwithstanding this misfortune, however, he still continued his enterprises. The year 630 proved remarkably fortunate. It was ushered in by the conversion of Khaled Ebn Al Walid, Amru Ebn Al As, and Othman Ebn Telha, three of the most considerable persons among the Koreith; and this soon enabled him to become master of the whole peninsula of Arabia. This year also the inhabitants of Mecca

Arabia.

55  
Prodigious  
veneration  
for Mahomet.

56  
He invites  
foreign  
princes to  
embrace his  
religion.

57  
Is poisoned,  
but recovers.

Arabia.

52  
Siege of  
Medina.

53  
The siege  
raised.

54  
Koreidhites  
massacred.



Arabs.  
53  
Meccans  
violate the  
treaty with  
Mahomet.

took it into their heads to violate the treaty concluded with Mahomet: for the tribe of Becr, who were the confederates of the Koreish, attacking those of Khozaab, who were in alliance with Mahomet, massacred 20 of them, and afterwards retired; being supported in this action by a party of the Koreish themselves.—The consequence of this violation was soon apprehended; and Abu Sofian himself made a journey to Medina, in order to heal the breach and renew the truce: but in vain; for Mahomet, glad of this opportunity, refused to see him. Upon this he applied to Abu Becr, Ali, Omâr, and Fatima, to intercede for their countrymen with the prophet; but some of these giving him rough answers, and others none at all, he was obliged to return to Mecca as he came. Mahomet immediately gave orders for the necessary preparations, that he might surprize the Meccans, who were by no means in a condition to receive him; but Hateb Ebn Abu Baktaa, hitherto a faithful Moslem, attempted to give them notice of their danger by a letter; though without effect. His letter was intercepted: and he alleged in his excuse, that the only reason he had for his conduct was to induce the Koreish to treat his family with kindness. This excuse the prophet accepted, as he had greatly distinguished himself at the battle of Bedr, but strictly forbade any such practices for the future; which having done, he immediately made the necessary dispositions for setting forward.

Mahomet's army, on this occasion, was composed of Mohajerin, Ansars, and other Arabs, who had lately become profelytes. As they drew near to Mecca, he set up his standards, and advanced in order of battle to Mar Al Dharran, a place about four parasangs from Mecca, where the whole army encamped. Here he ordered 10,000 fires to be lighted, and committed the defence of the camp to Omar, who cut off all communication with the town, so that the Meccans could receive no certain advice of their approach. Among others that came from Mecca to reconnoitre the Moslem camp, Abu Sofian Ebn Harb, Hakim Ebn Hezam, and Bodail Ebn Warka, fell into Omar's hands; and being conducted to Mahomet, were obliged to embrace Mahometanism in order to save their lives.

The first rumour of this expedition had not a little terrified the Koreish, though they were not apprised that the prophet had resolved upon a war; but perceiving now, upon the report of Abu Sofian, who had been sent back to them, that the enemy was at their gates, they were thrown into the utmost consternation. Of this Mahomet being informed, he resolved to take advantage of the confusion that then reigned among them. He therefore first despatched Hakem and Bodail to the Meccans, inviting them to take an oath of allegiance to him, and become converts to his new religion; after which, he made the following disposition of his forces. Al Zobeir was ordered to advance with a detachment toward the town on the side of Mount Coda. Saad Ebn Obad, prince of the tribe Khazraj, marched by his order with another detachment towards the height of Coda, which commands the plain of Mecca. Ali commanded the left wing of the army, consisting of Ansars and Mohajerin. The prophet put into his hands the great standard of Mahometanism, with orders to post himself upon Mount Al Hajun, and to plant the standard there; strictly enjoining him, however, not

to stir from thence till he himself arrived, and till a proper signal should be given him from Saad for that purpose. Khaled led the right wing, consisting of the Arabs lately converted, with which he was to possess himself of the plain of Mecca. Abu Obeidah commanded in the centre, which consisted entirely of infantry; the prophet himself remained in the rear, from whence he could most easily despatch his orders to all the generals as occasion should require. He expressly prohibited Khaled and all his other officers from acting offensively unless they were first attacked. Things being in this situation, the army upon a signal given put itself immediately in motion. The prophet mounted his camel with great alacrity, and was that day clothed in red. Al Zobeir pursued the route assigned him without opposition; nor did Saad discover the faintest traces of an enemy: Ali took possession of his post without the loss of a man; and in like manner Abu Obeidah seized on the suburbs. Khaled, however, in his march to the plain, was met by a large body of the Koreish and their confederates, whom he immediately attacked and defeated, putting 28 of them to the sword. Not content with this, he pursued them into the town, and massacred a great number of the inhabitants; which so terrified the rest, that some shut themselves up in their houses, while others fled different ways in order to avoid the fury of the merciless and impious tyrant, who was now become master of the city. Thus was Mecca reduced, with the loss only of two men on the side of the impostor.

Mahomet being now master of the city, made his public entry into it exactly at sunrise. When the first tumult was over, he went in procession round the Caaba seven times, touching the corner of the black stone with the staff in his hand, as often as he passed it, with great devotion. Then he entered the Caaba; where observing several idols in the form of angels, and the statues of Abraham and Ishmael with the arrows of divination in their hands, he caused them all to be destroyed. He also broke in pieces with his own hands a wooden pigeon, that had long been esteemed a deity by the idolatrous Koreish. Afterwards entering into the interior part of the Caaba, he repeated with a loud voice the form used at this day by the Mahometans, "Allah Akbar, God is great," &c. turning towards every part of the temple. Then he prayed between the two pillars there, with two inclinations, as well as without the Caaba; saying to those that attended him, "This is your Kebla, or the place towards which you are to turn your faces in prayer."

Having thus effectually subdued the Koreish, put an end to all commotions, and purged the Caaba of 360 idols, the prophet's next care was to ingratiate himself with the people. Sending therefore for some of the principal of them, he asked them what kind of treatment they expected from him, now he had conquered them? To this they replied, "None but what is favourable, O generous brother:" upon which he dismissed them, telling them they were from that moment a free people. After this, pretending a new revelation, he restored the keys of the Caaba, to Othman Ebn Telha, who was in possession of them before; and who was now so much affected by this piece of justice, that he immediately became a profelyte. Next day the prophet declared Mecca an asylum, and publicly gave

Arabs.

59  
Mecca taken.



Arabin. gave out that he would maintain to the utmost of his power the inviolable security of the place. He then was solemnly inaugurated; after which he proscribed, according to some, six men and four women, according to others, eleven men and one woman: but of these only three men and one woman were put to death; the rest being pardoned on their embracing Mahometanism, and one woman making her escape. The remainder of this year was spent in various expeditions against different tribes of the Arabs, which were in general attended with success.

The 9th year of the Hegira, being that of Christ 631, is called by the Mahometans the year of *Embassies*; for the Arabs, who had hitherto been expecting the issue of the war between Mahomet and the Koreish, no sooner saw that tribe, which was the most considerable of the whole, submit to him, than they began to come in to him in great numbers, and to send embassies to make their submissions to him, both while at Mecca and after his return to Medina, whither he had returned soon after the taking of Mecca: and thus good fortune continued without interruption to the year 632, when this famous impostor breathed his last, having just reduced under his subjection the whole peninsula of Arabia, and being ready to break into the neighbouring kingdoms in order to satisfy his ambition.

60  
Mahomet dies.

61  
Great confusion on his death.

The death of Mahomet occasioned such a consternation in Mecca, that the governor hid himself, fearing to be called to an account for his former conduct; and the inhabitants, upon the first arrival of this melancholy news, considered themselves as destitute of all manner of protection. After the first impressions of their fear, however, were over, they began to meditate a revolt; but were prevented by one Sohail Ebn Amru, a principal man of the Koreish. The tumults at Medina, however, were not so easily appeased. The news of this sad event was no sooner published there, than a number of people assembled before his door, crying out, "How can our apostle be dead? Our intercessor, our mediator, has not entirely left us! He is taken up into heaven, as was Isa (Jesus); therefore he shall not be buried." This was confirmed by Omar; who drew his sword, and swore, that if any person affirmed Mahomet to be dead, he would cut off his hands and his feet. "The apostle of God (says he) is not dead: he is only gone for a season, as Moses the son of Amram was gone from the people of Israel for 40 days, and then returned to them again." The populace therefore kept the body above ground, even after the belly began to swell; nor could the prophet's uncle Al Abbas, notwithstanding this, convince them to the contrary. Upon hearing of these transactions, Abu Becr immediately posted from Al Sonah, another quarter of the city, and expostulated with them in the following manner: "Do you worship Mahomet, or the god of Mahomet? If the latter, he is immortal, and liveth for ever; but if the former, you are in a manifest error, for he is certainly dead." The truth of this assertion he immediately evinced from several passages of the Koran, in so clear and conclusive a manner, that he not only satisfied Omar, but calmed the minds of all the people.

The prophet having left no directions concerning a successor, very warm disputes arose between the Mohajerin and the Ansars about the right of electing a caliph. The former insisted on having that right, because

they had attended Mahomet in his flight to Medina; and the others, because they had supported him when expelled from his native city, &c. In short, the disputes became so hot, that an open rupture must have commenced, had not they been terminated by a proposal that each party should choose a caliph. This amused them a little for the present; but not proving perfectly agreeable to the Mohajerin, Abu Becr proposed two persons, Omar and Abu Obeidah, offering to swear allegiance to him on whom the suffrages of both parties should fall. But this producing no decision, Omar swore fealty to Abu Becr, and his example was followed by all the Moslems on the spot; upon which he was acknowledged both by the Mohajerin and Ansars as the rightful successor of Mahomet.

Arabia.

62  
Abu Becr succeeds him.

These transactions, however, were not at all agreeable to Ali, who, as son-in-law to the prophet, had undoubtedly the best title to the succession. He expostulated with Abu Becr about the manner of his election, which had been effected without his knowledge; and received for answer, that the exigence of affairs would not admit of deliberation; and that, had not the election been so sudden, the opposite party would have wrested the power entirely out of their hands. Ali was in Fatima's apartment when Abu Becr had the good luck to be elected caliph; and, upon the arrival of the news, expressed great dissatisfaction. He found himself, however, soon obliged to change his note, when the new caliph sent Omar with orders to burn the house where he and his friends were assembled, in case he did not concur in supporting the election. But notwithstanding his forced compliance on this occasion, it is not to be doubted that he reckoned himself injured; and his pretensions were thought to be just by a great number of Moslems: which notion is entertained by a very considerable party of Mahometans even at this day; and these are called *Shiites* or *sectaries*.

63  
Ali dissatisfied.

Soon after Abu Becr's accession, many of the Arabs refused to pay the tribute imposed upon them by Mahomet, and even attempted to shake off his yoke altogether. This so alarmed the caliph and his subjects at Medina, that, fearing a general revolt, they sent all not able to bear arms into the cavities of the rocks and mountains, and put themselves in as good a posture of defence as the short time would permit. In the mean time Khaled was despatched with an army of 4500 men to reduce the rebels; and he soon coming up with them, gave them a total defeat, brought off a vast quantity of plunder, and made many of their children slaves. Nor was he content with this; for being sent by Abu Becr to Malec Ebn Noweirah, an eminent person among the Arabs, and famous for his skill in poetry as well as his horsemanship and bravery, to bring him over by fair means, he immediately ordered his head to be cut off. By this means, indeed, he extinguished all the remains of rebellion; but rendered himself exceedingly obnoxious to Abu Becr, who would have put him to death, had not Omar strongly interceded for him: for Khaled had greatly exceeded his commission, as Malec had returned to Mahometanism, and had offered to pay the money. This was not, however, the only piece of service Khaled performed at this time; he also defeated and killed Moseilama, who had set up for a prophet in the time of Mahomet, and even wanted to take the grand impostor himself into company with him. The same

64  
Rebellions extinguished by Khaled.



Arabia. fame general likewise defeated and dispersed the troops of another prophet, called *Toleiah Ebn Khowailed*, obliging himself to remain concealed till after the death of Abu Becr. About the same time another body of rebels committed great disorders in the province of Bahrein. Against these Abu Becr despatched Al Ola at the head of a considerable army, who soon obliged them to return to Mahometanism; having put great numbers of them to the sword, and plundered their country in a dreadful manner.

65 War with the Greeks. Arabia, and being free from all apprehensions of a competitor, resolved next to turn his arms against the Greek emperor. Some skirmishes had happened, in the time of Mahomet, between the Moslems and Greeks; in one of which Zeid, a Moslem commander, had been killed. To revenge his death, his son Osama was on the point of making an irruption into Syria at the time of Mahomet's decease. This enterprize the caliph ordered him to go on with; and it was executed by Osama with great success. He entered Syria, and laid waste the country, doing the Greeks a good deal of damage: after which he returned to Arabia without any considerable loss.

66 Kingdom of Hira destroyed. Soon after the caliph sent Khaled at the head of a powerful army to invade Irak, and put an end to the kingdom of Hira. In this undertaking he was attended with his usual success. The king Al Mondar Al Maghrur lost his life in defence of his dominions; and the kingdom was totally destroyed, after it had continued 622 years and eight months, as we have already hinted. The inhabitants became tributaries; and, according to Eutychius, the tribute collected on this occasion amounted to 70,000 pieces of money. This, according to Al Makin, was the first tribute money ever brought to Medina.

The exigence of the caliph's affairs in Syria, however, did not suffer Khaled long to remain in Irak. Before the departure of the army under his command, Abu Becr had come to a resolution to invade Syria; and finding his design approved by the principal officers of his court, he sent circular letters to the petty princes of Yaman, the chief men of Mecca, &c. informing them of his intention to take Syria out of the hands of the infidels; acquainting them, at the same time, that a war for the propagation of the true religion was an act of obedience to God. To these letters they paid a proper regard; and in a very short time appeared at Medina at the head of their respective troops, and pitched their tents round the city. Here they staid till the Moslem army destined to act against the emperor was completely formed, and in a capacity to begin its march. The caliph having viewed the troops from the top of a hill, and prayed to God for success, attended the generals a little way on foot. As the generals were on horseback, they could not forbear expressing their uneasiness at the caliph's thus demeaning himself; but he told them, that it signified little whether they walked on foot or rode, as they had all the same views, viz. the service of God, and the propagation of religion. At parting, he addressed Yezid Ebn Abu Sofian, whom he had invested with the supreme command, in the following manner: "Take care, Yezid Ebn Abu Sofian, to treat your men with tenderness and lenity. Consult with your officers on

67 Abu Becr's directions to his general.

all pressing occasions, and encourage them to face the enemy with bravery and resolution. If you shall happen to be victorious, destroy neither old people, women, nor children. Cut down no palm trees, nor burn any fields of corn. Spare all fruit trees, and slay no cattle but such as you shall take for your own use. Adhere always inviolably to your engagements, and put none of the religious persons you shall meet with in monasteries to the sword. Offer no violence to the places they serve God in. As for those members of the synagogues of Satan *who shave their crowns*, cleave their skulls, and give them no quarter, except they embrace Islamism (Mahometanism), or pay tribute."

The Greek emperor was greatly alarmed at the approach of the Moslem army; however, he made all necessary preparations for his defence, and sent out a detachment to reconnoitre the enemy. These having fallen in with the Arabs, a battle ensued, in which the Greeks were defeated with the loss of 1200, while the Arabs lost only 120 men. This was succeeded by a great many skirmishes, in which the Moslems were generally victorious. The rich spoil taken on these occasions was sent as a present to the caliph; who having acquainted the inhabitants of Mecca with his good success, they were thereby so elated, that they furnished him with a strong reinforcement, which was immediately ordered into Syria. The Greek emperor, in the mean time, having ordered another body of his troops to advance towards the frontiers, they found an opportunity of engaging the Moslem army under Abu Obeidah, a person of great piety, but little experience in war. Him they totally defeated; and Abu Becr was so much provoked at his defeat, that he deprived him of the command, which was given to Khaled, who was for this purpose recalled from Irak. That general's first exploit was the reduction of Bosra, a very rich and populous city of Syria Damascena; which, however, he accomplished by treachery rather than by force of arms. Having left a garrison of 400 men in Bosra, and being joined by Abu Obeidah's forces, he laid siege to Damascus with an army of 45,000 men. This so alarmed the emperor, that he despatched an army of 100,000 men, commanded by one Werdan to the relief of that city. Khaled, on hearing of the approach of this formidable army, was for marching immediately with all his forces, and giving them battle; but this was opposed by Abu Obeidah, as it would enable the inhabitants of Damascus to procure fresh supplies both of arms and provisions, and consequently render the reduction of the place more difficult. It was, therefore, at last agreed, that a body of troops should be detached under Derar Ebn Al Wazar, an excellent officer, and an implacable enemy to the Christians (as indeed were all the Moslem generals except Abu Obeidah), to fight the enemy, whilst the siege was carried on by the two generals.

69 Damascus besieged. Khaled, fearing lest Derar's furious zeal and hatred to the Christians should prove fatal to his troops, told him before his departure, that though they were commanded to fight for the propagation of their religion, yet they were not allowed to throw away the lives of their men; and therefore ordered him to retire to the main body of the army, in case he found himself pressed by a superior force. But Derar, deaf to this salutary admonition, with his small body of troops rushed upon

Arabia.

68 The Moslems defeated.

69 Damascus besieged.

70 The Greeks defeated with great slaughter.



upon the whole Christian army, notwithstanding the vast disproportion of numbers. He charged them, however, with such bravery, that he penetrated to the spot where the general gave his orders, killed the standard-bearer, and carried off the standard itself, in which was a cross richly adorned with precious stones. Nay, he would in all probability have put Werdan's army to flight, had not that general's son, the commandant of Hems, arrived in the heat of the engagement with a body of 10,000 men; with which he attacked the Moslems so briskly in the rear, that he forced them to retire, and took Derar himself prisoner. This so discouraged them, that they would have taken to their heels, had not Rafi Ebn Omeirah animated them with the following words: "What! do not you know, that whoever turns his back upon his enemies offends God and his prophet? and that the prophet declared the gates of paradise should be open to none but such as fought for religion? Come on! I will go before you. If your captain be dead, or taken prisoner, yet your God is alive, and sees what you do." This exhortation had such an effect upon his troops, that returning to the charge, they maintained their ground with unparalleled bravery, till Khaled arrived with a considerable body of infantry and 1000 horse. The arrival of this general soon turned the fortune of the day. A party of the imperial army went over to the Moslems, and the rest took to their heels. Derar also was retaken, and carried off in triumph. However, Werdan, having collected the shattered remains of his forces, and received a reinforcement from the emperor, found his army still to amount to 70,000 men, with which he resolved to make another attempt for the relief of Damascus. They were attended with still worse success in this second attempt than they had been before; being utterly defeated, with the loss of 50,000 men, so that they were no more in a condition to attempt any thing; and, in consequence of this, the city was soon taken, notwithstanding the utmost efforts of the besieged.

71  
The city  
taken.

72  
Abu Becr  
dies, and is  
succeeded  
by Omar.

This disastrous event happened in the year 634; and the very day that Damascus was taken, Abu Becr died of a consumption in the 63d year of his age. He was succeeded by Omar, who was proclaimed caliph that very day; and the first title assigned him was, *The caliph of the caliph of the apostle of God*. But the Arabs considering, that by the additions to be continually made at the accession of every new caliph, the title would become too long, they with one voice saluted him, *Emperor of the believers*; which illustrious title descended afterwards to his successors by a kind of incontestable right.

The new caliph was no sooner settled than he replaced Abu Obeidah in the command of the army in Syria, being greatly displeas'd with the cruel and blood-thirsty disposition of Khaled. He also commanded Abu Obeidah to have an eye upon Palestine, and to invade it as soon as an opportunity offered. Khaled bore his disgrace with great magnanimity; and swore, that though he had always had the greatest regard for Abu Becr, and the utmost aversion to Omar, he would submit to God's will, and obey the new caliph as the lawful successor of Mahomet. The Moslem forces in the mean time having made all proper dispositions for improving the advantages they had gained, Abu Obei-

dah sent a detachment of 500 horse to a place called *Dair Abel Kodos*, about 30 miles from Damascus, to plunder the Christians there. In this place there lived a priest so eminent for his sanctity, that the neighbouring people of all ranks resorted to him for his blessing and instruction. When any person of distinction married, he took with him his new spouse, in order to receive this holy man's benediction. The fame of this priest's sanctity drew such numbers of people to that place every Easter, that a great fair was kept annually at his house to which were brought vast quantities of the richest silks, plate, jewels, &c. When the Arabs drew near to this place, to which they were conducted by a Christian, they were informed that the governor of Tripoli had married his daughter to a person of distinction, who had carried his lady to the above-mentioned priest. She was attended by a guard of 5000 men; besides which, the Jews, Greeks, Copts, and Armenians, at that time assembled about the monastery, amounted to 10,000. Notwithstanding this, the Moslem commander determined to carry off the lady; and having told his men, that they should either enjoy the riches of the Christians, or the pleasures of paradise, he commanded them to fall on the enemy. The impetuosity of these enthusiasts at first bore all down before them; but the Christians, perceiving they were but a handful of men, surrounded them on all sides, and resolved to make them pay dear for their temerity. But Abu Obeidah, being informed of their dangerous situation, immediately despatched Khaled with a strong detachment to the relief of his distressed countrymen. The consequence of this was, that the Christians were entirely defeated, and the unhappy lady carried off, with 40 maids that waited upon her, as well as all the wealth brought to the above-mentioned fair; among which were many rich garments curiously wrought, and in particular one adorned with the effigies of our Saviour. All these were sold for ten times their weight of gold to some of the opulent Arabs of Yaman. The young lady was given to Abdallah, who kept her to the reign of Yezid. Of this advantage Abu Obeidah sent notice to the caliph by a letter, in which he also acquainted him that some of his men had drunk wine. These delinquents, by the advice of Ali, had each of them 80 stripes bestowed upon the soles of their feet: after which, many others, who had never been suspected of drinking this prohibited liquor, made a voluntary confession, and received the same chastisement.

73  
Governor  
of Tripoli's  
daughter  
carried off.

74  
Punishment  
of some  
soldiers  
who had  
drunk wine.

The Moslem general next set about reducing the principal fortresses in Syria, and soon became master of Kinnirrin, Baalbec, Adestan, Shaizar, and Hems; on the news of which, the Greek emperor Heraclius, resolving if possible to put a stop to the cruel and unprovoked ravages of these barbarians, sent against them an army of 240,000 men, commanded by one Manuel, whom the Arabs call *Maban*. But this vast multitude was utterly defeated by Khaled; upon whom Abu Obeidah conferred the supreme command, on account of his superior skill in military affairs. This battle was fought near a village called *Yermouk*; and, according to the Arabian historians, the Christians had 150,000 men killed and 40,000 taken prisoners, while the Moslems lost no more than 4030 men.

75  
The Greeks  
utterly de-  
feated at  
Yermouk.

The defeat at Yermouk was immediately followed by



Arabia.  
76  
Omar visits  
Jerusalem.

by the loss of the whole province of Palestine. The reduction of Jerusalem was one of its first consequences; and Omar, being apprised of the success of his arms, immediately set out to visit that holy place, at the request, it is said, of the inhabitants. The caliph was attended in his journey by a numerous retinue, most of whom afterwards returned home. He rode upon a red camel, and carried with him two sacks, one of which contained a sort of provision consisting of barley, rice, or wheat, sodden and unhusked, and the other fruits. Before him he had a leather bottle, very necessary in these desert countries to put water in; and behind him a wooden platter. Before he left the place where he had rested the preceding night, he constantly said the morning prayer; after which he addressed himself to his attendants in a devout strain, always uttering before them some pious ejaculations. Then he communicated his provision to them; every one of his fellow travellers eating with him out of the same platter, without the least distinction. His clothes were made of camels hair, and were in a very tattered condition; nor could any thing be more mean or fordid than the figure he made. On the road he distributed justice among his subjects; concerning which we have several anecdotes; but that most to his honour is the following: Having observed some poor tributaries exposed to the heat of the sun, a very cruel punishment in those hot countries, for not being able to pay the sum demanded of them, he ordered them to be released; telling his attendants, that he once heard the apostle of God say, "Do not afflict men in this world; for those who do so, God shall punish in hell fire at the day of judgment." His orders were immediately executed, to the great grief of the oppressors; and the caliph continued his route. On the confines of Syria he was met by Abu Obeidah attended by an escort, who conducted him to the Moslem camp, where he was received with the utmost demonstrations of joy; and from thence to Jerusalem. The morning after his arrival, he said prayers and preached to the troops. In his sermon he repeated the following passage out of the Koran. "Whomsoever God shall direct, he shall be rightly directed; and whomsoever he shall cause to err, thou shalt not find any to defend or to direct." Upon this a Christian rose up, and said aloud twice, "God causes no one to err." Omar made no answer to him, but commanded the Moslems near him to strike off the infidel's head if he repeated those words again; but the priest took care to give him no further interruption. After the conclusion of his sermon, he pitched his tent, made of hair, within sight of the city: then he signed the articles of capitulation; by which the inhabitants were entitled to the free exercise of their religion, the possession of their properties, and his protection.

The articles of capitulation being signed, Omar, in pursuance of his engagements, gave the inhabitants a schedule, by which they were secured in the full possession of all that had been agreed upon: after which the gates were opened to him, and he entered the town. He was waited upon by the patriarch Sophronius, with whom he conversed familiarly, and asked him many questions concerning the antiquities of the city. One of the first places they visited was the temple of the resurrection, in the midst of which Omar sat down;

77  
Anecdote  
of him.

and when the hour of prayer was come, told the patriarch he had a mind to pray, and desired him to show him a place for that purpose. Sophronius told him he might do so where he was; but this he absolutely refused. Then the patriarch led him to St Constantine's church; but he likewise declined praying there. At last he said his prayers upon one of the steps of the east gate of the church; telling the patriarch afterwards, that had he prayed in any of the churches, the Moslems would infallibly have taken it from them, which, he said, they might attempt as it was, and therefore gave him a paper, wherein the Moslems were commanded not to pray on the steps of St Constantine's church in any numbers, but only one by one. After this he desired the patriarch to show him a place where he might erect a mosque; and was conducted to the place where Jacob's stone lay, on which he slept when he saw the vision of the ladder. This stone had been hitherto slighted, and no building suffered to be erected upon it, in order to fulfil our Saviour's prophecy, that the habitation of the Jews should be left unto them desolate, and that not one stone should be left upon another. In consequence of this neglect it was entirely covered with dirt, which the caliph immediately began to carry away in his vest; and the Moslems soon hastening to assist him, the stone was cleared in a very short time. We are told by Theophanes, that when Omar entered the temple of the resurrection, he was clad in such mean and dirty apparel, that the patriarch took great offence at his appearance, and with much difficulty at last prevailed upon him to put on some clean linen and clothes till his own could be washed. The same author relates, that when the patriarch first saw Omar in that place, he could not forbear crying out, "This is of a truth the abomination of desolation, spoken of by Daniel the prophet, standing in the holy place!" These words, as Mr Ockley imagines, being overheard by the Moslems, they trumped up a story of the patriarch's having owned that the conquest of Jerusalem by Omar was foretold by the prophet Daniel; and that an ancient prophecy was kept in Jerusalem concerning Omar, wherein his person was described, his name and religion specified, and he declared to be the only man that could reduce that city.

Before the caliph left Syria, he divided that country into two parts; one of which, that lay between Hadran or Auran and Aleppo, which was not perfectly conquered, he committed to the care of Abu Obeidah, giving him the strictest orders to reduce it as soon as possible. Yezid Ebn Abu Sofian was commanded to take upon him the care of the other, which comprehended Palestine, and the sea coast, and to make himself absolute master of it, having a body of troops assigned him for that purpose. He also directed Amru Ebn Al As to invade Egypt, then in a very languishing condition, with a body of Moslem forces. After having made these dispositions for extending his conquests, Omar set out for Medina, where he arrived in perfect health, to the great joy of the inhabitants, who apprehended, from his long stay at Jerusalem, that he had intended to fix his residence there.

Soon after Omar's departure, Yezid advanced to Caesarea; but found the place so strong that he was obliged to continue some time in a state of inaction.

Abu

Arabia.

78  
He returns  
to Medina.



Arabia. Abu Obeidah, in the mean time, advanced towards Aleppo, the citadel of which was at that time the strongest in Syria. The citizens were struck with the utmost consternation at his approach. They had at that time two governors, who were brothers, and resided in the castle, which was situated at a little distance from the city. The names of these two governors, who were of very different dispositions, were Youkinna and John. Their father, by the emperor Hraclius's appointment, presided over all that tract which lay betwixt Aleppo and the Euphrates; and, after his death, the chief management of affairs devolved upon Youkinna, his brother John spending his time mostly in devotion and acts of charity. He would therefore gladly have prevailed on Youkinna to purchase a peace from the Arabs with money, rather than make his country a scene of blood and ravages; but this not suiting the martial genius of Youkinna, he armed a considerable number of the citizens, among whom were several Christian Arabs, and distributed money among them. He then told his men that he intended to act offensively against the Arabs, and even to engage them if possible before they drew too near. To inspire them with the greater resolution, he observed, that the Moslem army was divided into several bodies; one of which had orders to besiege Cæsarea, another to march to Damascus, and the third to invade Egypt. Having thus animated his troops, he put himself at the head of 12,000 of them, and marched forwards to get intelligence of the enemy's motions.

79  
A Moslem detachment defeated by Youkinna.

Arabia. Abu Obeidah, in the mean time, had sent before him Caab Ebn Damarah, with 1000 men; giving him express orders not to fight till he had received information of the enemy. Youkinna's spies discovered Caab and his men resting themselves and watering their horses without the least apprehension of danger; of which the general being apprised, he posted one part of his troops in ambuscade, and with the other attacked the Moslems. The Arabs behaved with their usual valour; and at first repulsed the Christians, notwithstanding their superiority in numbers; but being attacked by the troops that lay in ambush, they were at last forced to retire; having 170 killed, and almost all the rest wounded.

80  
Aleppo submits to Abu Obeidah.

81  
Cruelty of Youkinna.

ed, he was obliged to sustain an attack from the Arabs, in which he lost 3000 men. The action was no sooner ended than the inhabitants of Aleppo brought out forty of Youkinna's men, and as a proof of their fidelity delivered them into Abu Obeidah's hands. Of these seven embraced Mahometanism, and the rest were beheaded.

Arabia.

Immediately after Youkinna had shut himself up in the castle, a council of war was held in the Moslem camp, wherein it was deliberated what measures were to be pursued on the present occasion. Khaled gave it as his opinion, that the castle ought immediately to be attacked with all the Arab forces, before the emperor had time to send them any assistance. This advice was followed by Abu Obeidah, who caused the citadel to be immediately invested; and soon after he had surrounded it with all his forces, made a most vigorous assault. The besieged defended themselves with great bravery, and after a very warm dispute drove the enemy into their camp; and as they threw a great many stones out of their military engines, many of the Moslems were killed, and a much greater number wounded. This encouraged Youkinna to make a sally with a strong party of the garrison the following night. The fires being then out in the Moslem camp, and the besiegers not expecting such an unseasonable visit, 60 of them were killed on the spot, and 50 taken prisoners. Youkinna, however, being briskly attacked by Khaled, who soon drew together a body of troops to oppose him, lost about 100 men in his retreat. The next day, he caused the prisoners to be beheaded in sight of the Moslem camp; and receiving advice that a strong party of Arabian cavalry was sent out to forage, he ordered a body of his horse to drive them to their camp; which they accordingly did, killed 130 of them, seized all their camels, horses, &c. and then retired to the mountains. Here they proposed to remain concealed till the following night, and then return to the castle; but Abu Obeidah, being informed of what had happened, detached Khaled and Derar with a body of troops to pursue the Greeks, and revenge the late affront. Khaled, being informed of the route the Christians had taken, possessed himself of the only pass by which they could return to the castle; and having posted there a body of his men whose courage he could depend upon, took 300 of the Greeks prisoners as they attempted to return, and put all the rest to the sword. The next morning, to retaliate Youkinna's cruelty, the prisoners were all brought out and beheaded in sight of the garrison.

82  
He is besieged in the citadel.

Notwithstanding this disaster, Youkinna made several sallies with good success, wherein he killed a great number of the enemy, and harassed them to such a degree, that Abu Obeidah found himself obliged, for his greater security, to remove his camp to about a mile's distance from the castle; by which manœuvre he likewise hoped that Youkinna would be less upon his guard. Herein, however, he found himself mistaken: for the Greek commander, by the prudent measures he took, eluded all surprise; and though Abu Obeidah continued the siege for four months after the last mentioned blow given to the garrison by Khaled, yet he had scarce any hopes of making himself master of it at last. Having nothing material to write to the caliph, he remained a long time silent; at which

83  
His vigorous defence.



Arabia. Omar being very much concerned, wrote to him, desiring an account of the affairs in Syria. Abu Obeidah acquainted him that the city of Aleppo had submitted to him; and that the citadel was the only place which held out in all that country, before which he had lost a great number of men; which, he said, had induced him to think of raising the siege, and moving with his army in that track which lay between Antioch and Aleppo. This news was no by means agreeable to the caliph, who commanded his general to continue the siege at all events, and sent him a reinforcement of Arab troops, together with 70 camels, to assist the infantry in their march.

84

The citadel taken by stratagem.

Among the troops sent by Omar on this occasion, there was an Arab of a gigantic size, called *Dames*, who was a man of great courage and resolution. He observing the little progress made by the Moslems, he thought himself of a stratagem by which that fortress might be reduced, which seemed so difficult to be accomplished by force. He therefore desired that Abu Obeidah would assign him the command of a party consisting only of thirty men; which at Khaled's request was readily granted. Then he begged the general to raise the siege, and retire to about three miles distance from the castle, which was likewise immediately complied with. The following night *Dames*, who had posted himself with his party very near the citadel, found means to seize a Greek, from whom he learned that Youkinna, after the siege was raised, had exacted large sums of money from the citizens, on account of the treaty they had concluded with the Arabs; and that he was one of those who had endeavoured to make their escape from the oppression of such a tyrant, by leaping down from the wall. This man *Dames* took under his protection; but beheaded five or six others who fell into his hands, and could give no good account of themselves. He then covered his head and shoulders with a goat's skin, and took a dry crust in his hand, creeping on the ground till he got close to the foot of the wall. If he heard any noise, or suspected any person to be near, he made such a noise with his crust as a dog does when he is gnawing a bone; his companions sometimes walking, and sometimes creeping after him in the same manner. He had before despatched two of his men to Abu Obeidah, to desire that a detachment of horse might be sent him by break of day to support his small party, and facilitate the execution of the plan he had formed. At last *Dames* found an opportunity of raising seven men upon his shoulders, who stood upon one another's shoulders in such a manner that the highest reached the top of the wall. Here he soon placed himself, seized a watchman whom he found asleep, and threw him over the wall. Two others, whom he found in the same condition, he stabbed with his dagger, and threw them over likewise. Then he laid down his turban, and drew up the second of his brethren, as they two did the third, and by their help *Dames* himself and all the rest were enabled to mount the wall. He then privately stabbed the sentry at each of the gates, and put his men in possession of every one of them. The soldiers of the garrison, however, were at last alarmed, and surrounded the Arabs, who were on the point of perishing, when Khaled appeared at the head of a detachment of cavalry. On the sight of that general, who

was now grown terrible to the Christians, the besieged threw down their arms, and surrendered at discretion. Youkinna and some of the principal officers turned Mahometans, in order to save their possessions; and the castle, being taken by storm, was pillaged by the Moslems. *Dames* acquired great glory by this exploit; and, out of complaisance to him, the army did not decamp from Aleppo till he and his men were perfectly cured of their wounds.

Arabia.  
85  
Youkinna's apostasy.

After the reduction of the citadel of Aleppo, Abu Obeidah intended to march to Antioch; but was diverted by Youkinna, who was now become a violent enemy to the Christians. He told the Moslem general, that his conquest of that part of the country would not be complete without the reduction of Azaz, a place of great importance, where Theodorus, Youkinna's cousin-german, was commandant. This fortress he proposed to become master of, by putting himself at the head of 100 Arab horse, dressed in the Greek habit, who were to attend him to Azaz. Upon his arrival there, he was to assure Theodorus that he was still in reality a Christian, and had taken that opportunity to escape from the Moslem camp. But to make his story more probable, Abu Obeidah was to send after him a detachment of 1000 horse, who were to pursue him as far as Morah, a village in the neighbourhood of Azaz, with orders to post themselves there; from whence, if such a measure should be found necessary, they might easily advance to Azaz, to facilitate the conquest of that place. To this scheme Abu Obeidah agreed; but Youkinna with all his men were immediately taken prisoners by Theodorus, who had been informed of the whole affair by a spy in the Moslem camp, who had sent him a letter by a pigeon. The fortress, however, was soon reduced, and Youkinna regained his liberty; but was soon after taken prisoner a second time, and brought before his old master Heraclius, who then resided at Antioch. He told the emperor, that he had only pretended to embrace Mahometanism, in order to be able to do his imperial majesty the more essential service; and so far gained upon him, that he was soon after appointed governor of that city; the consequence of which was, that the Arabs were put in possession of it by his treachery.

86

He is taken prisoner and brought before Heraclius.

The emperor being quite disheartened at his continual bad success, it was suggested to him by the king of Ghassan, who had fled to him for refuge, as we have already observed, that, however desperate his affairs might be, they would be perfectly restored by the assassination of the caliph. This piece of service he undertook to perform for the emperor; and despatched one Wathek Ebn Mofafer, an Arab of his tribe, and a resolute young man, to Medina for that purpose. Wathek, some time after his arrival there, having observed the caliph to fall asleep under a tree, on which he had placed himself so as not to be observed by any one, drew his dagger, and was upon the point of stabbing him; but, as the Arab writers tell us, he was deterred by a lion, who walked round the caliph, and licked his feet till he awoke, after which he instantly went away. This struck Wathek with a profound reverence for Omar; he came down from his tree where he had been confined by the lion, confessed his design, and embraced the Mahometan religion.

87

Attempt to assassinate Omar mis-carries.

Soon after the reduction of Antioch, Abu Obeidah

88

The Greeks dedicated.



Arabia. sent an account of his success to Omar; and receiving an order to invade the mountainous parts of Syria, he asked his general officers which of them would command the body of troops destined for this purpose. One Meifarah Ebn Mefrouk having offered his service, the general gave him a black standard, with the following inscription upon it in white letters: "There is but one God; Mahomet is the Apostle of God." The body assigned him for this purpose consisted of 300 Arabs, and 1000 black slaves commanded by Dames. Meifarah, at the head of his troops, with some difficulty ascended the mountains, and, with much more, advanced to that part where the emperor's forces were posted. The cold was so intense on the summits of those mountains, that the Arabs, who had been accustomed to a warm climate, could hardly bear it. For some time they could not meet with a single person to give them intelligence of the enemy's motions; but at last they took a Greek prisoner, who informed them, that the imperial army, which consisted of 30,000 men, lay encamped on a spot not three leagues distant. The prisoner refusing to profess Mahometanism, they cut off his head, and then marched towards the imperial camp. The Greeks, hearing of their approach, advanced to meet them; and the Moslems being surrounded on all sides, were on the point of being all cut off, when Khaled appeared at the head of 3000 horse, and after him Ayab Ebn Ganem with 2000 more. At the approach of the horse under the command of the terrible Khaled, the Greeks retired, leaving all their tents, together with their rich furniture and effects to the Arabs. In this engagement, one of Omar's chief favourites, named *Abdalla Ebn Hodafa*, was taken prisoner, and sent directly to Constantinople. The caliph was so much concerned at this, that he sent a letter to Heraclius, desiring his release; which the emperor not only complied with, but made him many valuable presents, sending at the same time a jewel of immense value as a present to the caliph. This Omar offered to the jewellers of Medina, but they were ignorant of its value: the Moslems therefore begged him to keep it for his own use; but this he said he could not be answerable for to the public. It was therefore sold, and the money deposited in the public treasury.

89  
Omar's dis-  
interested-  
ness.

About this time also Khaled advanced with a body of troops as far as the Euphrates, and took Manbij, Beraa, Bales or Balis, exacting of the inhabitants 100,000 dinars for their present security, and imposing on them an annual tribute for the future. He also made himself master of Raaban, Dulouc, Korus, the Cyrus or Cyrrhus of the ancients, and several other fortified towns, nothing being now able to stand before him. Amru Ebn Al As now likewise prepared for the reducing some places in Palestine that still held out. While he remained in this province, he had a conference with Constantine the emperor's son, who endeavoured to persuade him to make peace with the Christians; but this he not agreeing to, unless they would consent to pay tribute, all hopes of an accommodation vanished, and the generals on both sides prepared to enter upon action. In the mean time an officer came from the Christian camp, dressed in very rich apparel, who challenged the stoutest man among the Moslems to fight him in single combat. The challenge was accepted

by a young Arab officer of Yaman; who being animated by a notion, derived from the prophet himself, that "the spirits of the martyrs rest in the crops of green birds, that eat of the fruits and drink of the rivers of paradise," discovered an uncommon eagerness to encounter his enemy. But the Christian officer not only killed this youth, but two or three more of the Moslems who came to his assistance. He was then attacked by Serjabil Ebn Hofanah, one of the generals, but a man so weakened by fasting, that he could scarce stand before him, and would therefore have been undoubtedly killed, had not a Greek horseman very opportunely interposed, and with one blow of his scimitar cut off the Christian's head. Serjabil, greatly surprised at this deliverance, asked the horseman who he was, and from whence he came; to which he replied in the following terms: "I am the unfortunate To-  
leiha Ebn Khowaid, who set up for a prophet, and, lying against God, pretended to inspiration." In consequence of having saved his life, Serjabil introduced him to Amru; and writing a letter to Omar, wherein he acquainted him with the signal proof Toleiha had given of his repentance, he obtained his pardon from the caliph.

Arabia.

90  
Account of  
To eihah the  
false pro-  
phet.

Though the two armies did not come to a general engagement, yet they had frequent skirmishes, in which the Arabs always got the better, and in some the Greeks suffered very considerably. This, together with the severity of the season, which was then uncommonly cold, so dejected the soldiery, that they began to desert in great numbers. Constantine, therefore, finding his troops to diminish daily, and the Arabs to grow stronger and stronger, took the advantage of a tempestuous night to escape to Casarea, which Yezid had not been able to take, leaving his camp to be plundered by the enemy. This city was soon after invested by Amru; and at the same time, Youkinna having made himself master of Tripoli by treachery, seized 50 ships from Cyprus and Crete, which carried a supply of arms and provisions for the emperor's troops, and had entered the port without knowing that the Arabs were masters of the town. With these ships he undertook an expedition against Tyre; and telling the inhabitants that he brought a supply of arms and provisions for Constantine's army, he was admitted into the town, and received with great kindness. Here, however, he had not been long before he was discovered by one of his own soldiers, and put under arrest, with 900 of his men. He was, however, set at liberty by those to whose care he was committed; and then opened the gates of the town to Yezid, by whom it had been invested. Constantine having got intelligence at Casarea of the loss of Tripoli and Tyre, was so disheartened, that he set sail from that city with all his family and the greatest part of his wealth; and the citizens then thought proper to make the best terms they could with Amru. The surrender of this city was followed by that of all the other cities and fortresses in the province; and thus the Arabs drove the Greeks out of the whole country of Syria extending from the Mediterranean to the Euphrates. This conquest was completed in the 18th year of the Hegira, six years after it had been undertaken.

91  
Youkinna  
taken pri-  
soner.

92  
Tyre and  
Casarea re-  
duced.

This year there happened such violent storms of hail  
in the peninsula of the Arabs, that a considerable extent  
of territory was laid waste by them, and a great num-  
ber

93  
Violent  
storms,  
plagues, &c.



Arabia. ber of animals of various kinds destroyed. An epidemical distemper likewise raged at Medina, which spread itself all over the neighbouring territory, and swept away great numbers of people. Syria also was visited by a dreadful plague; so that the Moslems lost there 25,000 men, among whom were Abu Obeidah himself, Yezid Ebn Abu Sofian, Serjabil, and many other persons of distinction. In short, so great was the mortality occasioned by the plague, both in Arabia and Syria, that the Arabs style the 18th year of the Hegira the *year of destruction*.

94  
Egypt re-  
duced;

Amru Ebn Al As having now executed the caliph's orders in Syria, set out on his expedition against Egypt. His first attempt was on Tarma, a town situated on the isthmus of Suez. This he reduced after a month's siege; and having narrowly viewed its situation, he formed a design of cutting through the isthmus, and thus joining the Mediterranean and Rea sea: but this project was not well relished by the caliph, who apprehended that it would facilitate the entrance of the Christians into the peninsula of Arabia. From Tarma he marched to Mefr, the Memphis of the ancient geographers; which, after a siege of seven months, was delivered up to him by the treachery of Al Mokawkas the governor. From Mefr he continued his march towards Alexandria, and, having defeated the emperor's army, closely invested that city. While his army lay before this capital, Amru himself had the misfortune to be taken prisoner and carried into the town. Being brought before the governor, he asked him why he committed such ravages and depredations in the Christian territories? To this Amru resolutely answered, "We are come hither to oblige you either to profess Mahometanism, or pay an annual tribute to the caliph; to one of which conditions you must submit, or be all of you put to the sword." A Greek who stood by hearing this, told the governor that Amru was certainly the Moslem general, and therefore desired him to cut off his head. Upon this Werdan, one of Amru's slaves, perceiving the extreme danger his master was in, gave him a box on the ear, exclaiming against his impudence for talking in such a manner. The governor being imposed upon by this shallow artifice, not only saved his life, but, to show his generosity, dismissed him without ransom. This was soon followed by the loss of Alexandria, and that by the conquest of the whole kingdom: after which, Amru despatched Okba Ebn Nafe with a body of troops to penetrate farther into Africa; and that general made himself master of all the country lying between Barca and Zoweilah, reducing under his dominion also that part of the continent which now forms the piratical kingdom of Tripoli in Barbary.

95  
together  
with Barca  
and Tripo-  
li.

Soon after the Moslems had made themselves masters of Alexandria, a grievous famine raged in Arabia, particularly at Medina, then the residence of the caliph. This obliged Omar to write to Amru to send him a supply of corn, with which Egypt at that time abounded. In compliance with this order, Amru sent a train of camels laden with corn, in a continued line from Egypt to Medina; the first of which were entering Medina when the last were leaving Alexandria. But this method of conveying corn proving too tedious and expensive, he ordered him to clear the Amnis Trajanus of Ptolemy, now the Khalis, which runs from

one end of Cairo to the other, of the sand and gravel with which it was choked. This he accordingly did, and by that means rendered the communication between Egypt and Arabia much more easy than it had formerly been.

Arabia.

While the Arabs thus extended their conquests in the west, they were no less successful in the east. We have already taken notice of Khaled's having been sent into Irak to reduce the kingdom of Hira, and of his being recalled to assist in the conquest of Syria. As the kings of Hira were under the protection of the Persian monarchs, the destruction of that kingdom necessarily brought on a war with the Persians. After the departure of Khaled, the command of the forces was left with Abu Obeid Ebn Mafud, together with Al Mothanna Ebn Haretha, Amru Ebn Hasem, and Salit Ebn Kis. Abu Obeid having passed a river contrary to the advice of the other generals, was killed, and his troops in great danger; however, Al Mothanna made an excellent retreat, and repassed the river without any considerable loss. After this he fortified himself in his camp till he received a considerable reinforcement from the caliph; when the Moslem army marched to Dir Hind, and thence continued to make frequent excursions, ravaging that part of Irak that lay next to the Euphrates. A body of 12,000 chosen horse was now despatched against those invaders, under the command of one Mahran. At first the Persians had the advantage, and obliged the Arabs to retire; but they were soon brought back by Al Mothanna, and the battle lasted from noon till sunset. At last Al Mothanna, engaging Mahran in single combat, laid him dead at his feet; upon which the Persians fled to Al Madayen, a town situated on the Tigris, about a day's journey from Bagdad. After this a powerful army was despatched by the Persians under the command of one Rustam; but he also was killed, and his troops were entirely dispersed. At the same time, Abu Musa, another Moslem general, defeated a formidable body of troops under the command of Al Harzaman, a noble Persian, at Ahwaz.

Not content with those victories, soon after the reduction of Damascus, the caliph despatched Saad Ebn Abu Wakkas, to dislodge the Persians from some districts they possessed in the neighbourhood of the Euphrates. Saad having drawn together a body of 12,000 men, advanced to Kadefia, a city bordering upon the deserts of Irak; where, having utterly defeated an army of 120,000 Persians, he made himself master of the opulent city of Al Madayen, and possessed himself of Yezdejerd's treasury, which was so rich, if we may believe the Arabian writers, that Saad took out of it three thousand millions of dinars, amounting to two thousand and twenty-five millions of pounds sterling; an enormous and almost incredible sum. From thence Saad went to that part of the palace where the king's plate was deposited, which he carried off, as well as an immense quantity of camphire with which another part of the palace was entirely filled. This last the Arabs seem to have carried off merely for the sake of plundering, as they were so much unacquainted with the nature of it, that they mixed it with their bread, which gave it a bitter and disagreeable taste. Afterwards the Arab general carried off the crown and royal garments, adorned with gold and jewels of inestimable value. He also plundered his armoury, which was well stored

96  
The Per-  
sians de-  
feated.

97  
Incredible  
treasure  
taken from  
them.

with



Arabia. with all forts of weapons; after which he caused the roof of his porch to be opened, where he found another treasure equal in value to ten millions of crowns. He also found among the furniture of the palace a piece of silk tapestry, 60 cubits square, which was adorned with a great variety of beautiful flowers, herbs, and plants, formed of gold, silver, and jewels, the most valuable that could be procured. This being brought to Omar, he cut it in pieces, and distributed it among the Moslems; and that part which fell to Ali's share, and which was yet none of the best, he sold for 20,000 crowns.

98  
Mesopotamia reduced.

In the 20th or 21st year of the Hegira, the Arabs, still unfatigued with conquest, invaded Mesopotamia under Aiyad Ebn Ganem, where the city of Edeffa submitted on the first summons. From Edeffa he marched to Constantia, or Constantinople, supposed to be the Niciphorium of the ancients. This he took by storm, as likewise Daras, where he massacred all the people he found in the place; and these repeated successes so terrified the rest of the fortified towns, that they all submitted without resistance. At the same time Al Mogheriah Ebn Shaabah, one of the caliph's commanders, made himself master of Shiz, a place famous for the birth of Zerdusht the Persian philosopher, and overran the whole province of Aderbijan. He also possessed himself of all the country of Armenia bordering on Mount Taurus; nay, he in a manner obliged the whole region to own the authority of the caliph, and penetrated into Cappadocia. The same year also Saad made himself master of Ahwas, the capital of Khuzestan (the ancient Susiana); in consequence of which he became master of the greatest part, if not the whole, of that province; at the same time that Al Nooman conquered the greatest part of Khorasan. But while Omar's troops were thus irresistibly overrunning the finest countries in the known world, a period was put to his conquests and his life, by a Persian named *Abu Lulua*, who stabbed him thrice in the belly while he was performing his devotions at Medina. The reason of this was, because the caliph refused to remit him some part of the tribute which, according to the Mahometan custom, he was obliged to pay for the free exercise of his religion. The Arabs, perceiving that he had killed their sovereign, immediately rushed upon him; but the assassin defended himself so desperately, that he killed seven of them and wounded thirteen: but at last one of the caliph's attendants threw his vest over him, and seized him; upon which he stabbed himself, and soon after expired.

99  
Omar murdered.

Omar having languished three days after the wounds given him by the Persian, expired in the 10th, 11th, or 12th year of his reign, and after his death Othman Ebn Affan was chosen; though Ali had a better title, and seems indisputably to have been the most virtuous, if not the only virtuous person, as well as the bravest warrior, among them. He was inaugurated in the 24th year of the Hegira, nearly coincident with the year of our Lord 645.

100  
Succeeded by Othman.

Othman was no sooner settled on the throne, than he commanded Al Mogheirah to complete the conquest of the territory of Hamadan; which he easily accomplished, and at the same time reduced Bira, a strong castle in Mesopotamia, which either had never submitted, or had revolted on the departure of the Mos-

lem troops out of that province. Another army, under Abdallah Ebn Amar, was also despatched into Persia, to deprive Yezdegerd of the poor remains of his dominions; and this was done so effectually, that the unhappy monarch was obliged to fly to Sijestan and abandon Persia altogether.

Arabia.

In the 27th year of the Hegira, the island of Cyprus was reduced by Moawiyah; who soon after conquered the island of Aradus, and took Ancyra; after which he reduced the island of Rhodes, broke in pieces the famous Colossus, and sold the metal of it to a Jew of Edeffa. In the mean time another of the Arab commanders entered Isauria, where he committed dreadful depredations, plundering many towns and villages, putting a great number of people to the sword, and carrying off 5000 prisoners. In the 31st year of the Hegira, one Habib having made an irruption into that part of Armenia which was still unconquered, defeated a body of the emperor's troops, pursuing them as far as Mount Caucasus, and laying waste all the neighbouring territory. About the same time also, Abul Abar, who had been constituted admiral by Moawiyah, gave the emperor Constantine a signal defeat by sea, on the coast of Lycia, in which such a number of Christians were killed, that the neighbouring sea was dyed with their blood.

101  
Colossus of Rhodes destroyed.

But while Othman was thus carrying every thing irresistibly before him abroad, he neglected to secure the affections of his subjects at home, which soon proved his ruin. Sedition was industriously propagated through all the provinces of the empire, and articles of accusation brought against the caliph. The chief of these were, That he had recalled one who had been banished by the prophet; that he had removed Saad, an officer of distinguished bravery, and supplied his place by one who drank wine, and was otherwise of a scandalous life; that he had squandered away vast sums among his favourites; that he had removed Amru from the government of Egypt, to which he had preferred his own foster brother; and, lastly, that he had presumed to sit on the top of Mahomet's pulpit, whereas Abu Becr had always sat on the highest step and Omar on the lowest. To this formidable accusation the poor caliph pleaded guilty, and promised to make all the reparation in his power; but his condescension only served to increase the insolence of the rebels. They were however appeased by Ali; and public tranquillity had undoubtedly been restored, had it not been for Ayesha, one of Mahomet's widows, who procured the destruction of the caliph by a scheme truly worthy of the wife of such a husband. That traitress, being desirous of raising one of her favourites named Telha to the dignity of caliph, prevailed on Merwan the secretary of state to write a letter to the prefect of Egypt, enjoining him to put to death Mahomet Ebn Abu Becr, with whom it was sent, and who was to be his successor. This letter Merwan took care should be discovered: and Mahomet taking it for a genuine order of the caliph, published the supposed injury all over the neighbouring countries. He then marched with a body of rebels to Medina, where the innocent caliph was besieged in his palace; and, notwithstanding all his protestations, nothing less than his death could satisfy the enraged multitude. In this deplorable situation Othman sent to Ali for assistance; who commanded his two sons Hasan and

102  
Insurrections against the caliph.



Arabia. and Hosen to defend the palace gates. This they did for some time with fidelity enough, till finding the caliph reduced to great straits for want of water, they abandoned their posts; upon which the rebels easily made themselves masters of the palace, and cruelly murdered the caliph, in the 82d year of his age, after he had reigned 12 years. His body remained three days unburied; and was at last thrown into a hole made for it, without the usual ablution, or the least funeral solemnity.

103  
He is murdered.

The arms of the Moslems had hitherto been so successful: and their conquests so rapid, that they may seem not only to have vied with Alexander, but to have bid fairer for universal monarchy than any nation either before or since.—The ruin of mighty empires always originates from the impossibility of keeping them united. Divisions arise; civil wars break out; and the kingdom being weakened by these intestine feuds, the common enemies take advantage of them to ruin the whole fabric. If we consider Mahomet, as in truth he was, not as an enthusiast, but as a politician and the founder of an empire; we shall find him in that capacity superior perhaps to any that ever existed. The empire of Alexander the Great, which arose with still more rapidity than that of the Arabs, had no support but from his own ambition and personal qualifications. While he lived, he was without a rival, because all were afraid of him; but when he died, the bands of union, whereby his empire had been held together, were immediately dissolved. His captains were not inspired with the same veneration for his son, who was unborn at the time of his death, that they had for his father; and therefore they fought not to conquer for him, but for themselves; and the consequence was, that the kingdom fell to pieces the moment that he died. The same thing happened to the empires of Jenghiz Khan, Tamerlane, and others, who made vast conquests in a short time. They erected mighty empires indeed; but their duration, we may say, was but momentary. The empire of the Romans was founded on a kind of enthusiastic desire of aggrandizing the city of Rome: patriotism became fashionable; and as the city never ceased to exist, those who conquered always had the same end in view, namely to exalt the republic more and more. This empire, therefore, was not only very extensive, but very durable; though, as it was impossible that mankind could always continue to venerate a city, the same divisions that ruined other empires at last brought this to an end. The foundation of Mahomet's empire seemed to be still more firm. He was not only the king, but, we may say, the god of his people. Whatever enthusiasm people may show in defending their country, nay even their nearest relations, experience has taught us that it is greatly inferior to what is shown by those who fight in defence of religion. This enthusiasm Mahomet had taken care not only to bring over to his side, but to exalt to its highest pitch, by inculcating upon his followers, that their rewards in the next world should be proportionable to the fury with which they fought in this. To live at peace, except with those who submitted to his will, did not at all enter into his plan; and he who made no conquests, or at least did not strive to make them, was no true believer. By this means, let his empire be ever so much extended, the temptation to

making fresh conquests was still equally strong; and not only the commanders of armies, but every private person, had the most powerful motives, to urge him towards the conquest of the whole world, had that been possible. The only thing Mahomet seems to have failed in was, the appointment of the succession to the apostleship; and why he was deficient in this is inconceivable. From this one source proceeded the divisions which ruined his empire when it was scarce erected, and of which we are now to give the history.

Arabia.  
104  
Causes of the decline of the Moslem empire.

Though the prophet had been so deficient in providing for the safety of his kingdom as not to name a successor at his death; yet his son-in-law Ali was always of opinion that the succession belonged of right to him; and that it ought to be, like that of other kingdoms, hereditary. This disposition to render the apostleship hereditary in the family, was in all probability, what disgusted the Moslems with Ali; against whom they could otherwise have no objection; for he was endowed with every amiable quality; a firm believer in Mahomet; and of such unparalleled strength and courage, that he never declined a combat to which he was challenged, nor ever failed to come off victorious; for which reason he was styled by his countrymen, "the lion of God."

105  
Character of Ali.

On the death of Othman, however, notwithstanding the prejudices against Ali, as none could pretend to good a right to the caliphate as he, the Arabs immediately took the oath of allegiance to him, though with an intention to break it as soon as possible, as was fully evinced by the event. The disturbances which happened immediately on Ali's accession were owing partly to the machinations of Ayesha, who having got Othman murdered on purpose to raise Telha to the dignity of caliph, and now finding Ali unanimously chosen, resolved to destroy him also. She therefore pretended great concern for the death of the late caliph, and accused Ali of being his murderer; but being reproved by one of the Moslems for endeavouring to blacken an innocent person, when she could not but know herself guilty; she replied, that Othman's infidelity had indeed made her his enemy, but that she had forgiven him upon his repentance. At the time of Ali's inauguration she was at Mecca, where she enjoyed a very considerable share of influence and authority. At her instigation, Telha Ebn Obeidallah, and Zobeir Ebn Al Awam, began to represent to Ali, that the murderers of Othman ought to be brought to condign punishment: offering themselves at the same time for that purpose. This they did purely to sow dissension, for they themselves had been deeply concerned in the murder; and Ali, sufficiently aware of their intention, told them it was impossible till the empire should be more settled. Finding themselves disappointed in this attempt, they next begged the government of Cufa and Basra, that they might with the greater facility extinguish any rebellion that should happen. Here again Ali was aware of their intention; and refused their request, under pretence that he stood in need of persons of their great capacity, as counsellors, about his person. Then they desired leave to perform a pilgrimage to Mecca, which the caliph could not refuse; and they were no sooner got there, than they set about raising an army against him without any provocation at all.

106  
He is chosen caliph.

107  
Disturbances raised by Ayesha

This, however, was not the only source of discord at



Arabia. at present. Ali had been displeas'd with the governors of provinces appointed by Othman; and therefore dismiss'd them immediately upon his accession. This was very impolitic; but he was prompt'd to do it by that rashness and want of prudence which is inseparable from, or rather is the very essence of, great courage. The consequence of this was, that Moawiyah, governor of Syria, was, immediately upon his dismissal by Ali, proclaimed caliph by the troops under his command. Thus the Moslems were divided into two factions; the one under Moawiyah and Ayeshah, who adhered to the house of Ommyyah, to which Othman and Moawiyah belonged; and the other to Ali. The adherents of the house of Ommyyah were called *Motazalites*, or *separatists*.

108 and Moawiyah. Ali, finding how matters were situated, and that a very strong party was formed against him, endeavour'd to ingratiate himself as much as possible with the Koreish; and to raise an army against Ayeshah, who had now taken the field, and even reduced the city of Basra. He made a formal speech to the people on hearing this bad news, and desired their assistance. But though he was very much beloved on account of his personal merit, and the best orator of the age, he could not with all his eloquence for some time prevail on them to give a decisive answer in his favour. At last Ziyad Ebn Hantelah stept to Ali of his own accord, and said, "Whosoever retreats, we will advance." Upon this two Ansars, doctors of the law, stood up, and pronounced Ali innocent of the death of Othman; which decision soon induced the Ansars and the body of the people to espouse his quarrel. He then left Medina with a body of 900 men, and advanced to Arrabah, where he was joined by several other parties. From this place he wrote to the people of Cufa and Medina, pressing them to send him farther assistance, and to dispose the Motazalites to an accommodation. From Medina he very soon obtained a large supply of horses, arms, and other necessaries; and from Cufa he obtained with difficulty a reinforcement of 8000 men.

109 Ali raises an army. Being greatly animated by this seasonable supply, Ali, advanced towards Basra, where the troops of Ayeshah were ready to receive him. Both parties seem'd averse to an engagement; and Ayeshah began to be very much intimidated at the sight of Ali's army, which however, was inferior to her own: but, by some means or other, a battle was at last brought about, in which Ayeshah was defeated and taken prisoner. The only remarkable effort that was made by the troops of Ayeshah in this engagement, was in defence of her person. It is said, that no fewer than 70 men who held her camel by the bridle, had their hands cut off successively; and that the pavilion in which she sat was so full of darts and arrows, that it resembled a porcupine. Ayeshah was treated very kindly by Ali, who at first set her at liberty, but afterwards confin'd her to her house at Medina, and command'd her to interfere no more with state affairs, though he still allow'd her to perform the pilgrimage to Mecca.

110 He defeats and takes Ayeshah prisoner. After this victory, Ali had no enemies to contend with either in Arabia, Irak, Egypt, Persia, or Khorasan. A strong party, however, still remained in Syria, headed by Moawiyah, who founded his claims to the caliphate on a pretended declaration of Othman that he should be his successor. In this defection he was

Arabia. joined by Amru Ebn Al As, who had obtained a promise of the government of Egypt, provided Moawiyah could be advanced to the dignity of caliph.

Ali, with his usual good nature, endeavour'd to bring the rebels to a sense of their duty, and often sent proposals of accommodation to Moawiyah; but he still remained inflexible. Perceiving, therefore, that it would be necessary to invade Syria, he enter'd that country with an army of 70,000 men, while Moawiyah advanced to meet him with 80,000; and by repeated reinforcements Ali's army at last amount'd to 90,000, and Moawiyah's to 120,000. The two armies came in sight of each other towards the close of the 36th year of the Hegira, when they seem'd ready to enter upon action; but only some skirmishes happen'd between them, wherein neither party sustain'd any considerable loss. The first month of the 37th year was spent in fruitless negotiations; but in the second month they began to fight in different parties, without ever hazarding a general engagement. These battles continued, according to some, for 40 days, and according to others, 110. Moawiyah's loss amount'd to 45,000 men, and Ali's to 25,000, among whom were 26 who had been intimately acquainted with Mahomet himself, and were dignified with the title of *The Companions*. The most famous of these was Ammar Ebn Yasar, Ali's general of horse, who was upwards of 90 years of age, and was highly esteem'd by both parties. The loss of this general so exasperated Ali, that he charg'd the Syrians with a body of 12,000 men, broke them, and challeng'd Moawiyah to fight him in single combat. This challenge Moawiyah declin'd, insisting that it was not a fair one, as Ali could not but be sensible of his superiority in strength. As the challenge was given in the hearing of both armies, Amru insist'd that Moawiyah could not in honour refuse it; but the coward made no other reply than that Amru aspir'd to the caliphate himself, and wanted to enjoy it after his death. The battle being now renew'd with great fury, Moawiyah's forces were push'd to their camp; which had certainly been taken, had not Amru bethought himself of the following stratagem to retrieve Moawiyah's affairs, when he seem'd on the very brink of destruction. He order'd some of his men to fix copies of the Koran to the points of their lances, and carry them to the front of the battle, crying out at the same time, "This is the book that ought to decide all differences between us; this is the book of God between us and you, that absolutely prohibits the effusion of Moslem blood." This produc'd the desired effect. The caliph's troops threw down their arms, and even threaten'd him with death if he did not found a retreat; which he therefore found himself oblig'd to do, and thus had a decisive victory wrested out of his hands.

111 Moawiyah challenged to a single combat by Ali. According to this new mode of decision, the two parties were each to choose their arbitrator; but even this was not allow'd to Ali, though Moawiyah had liberty to choose Amru Ebn Al As. The troops of Irak, not content with offering so gross an affront to the caliph, insist'd on naming for his arbitrator Abu Mufa Al Athavi; a very weak man, and one who had already betray'd him. The consequence of this appointment was, that Ali was depos'd by both the arbitrators; and he accordingly dropt his title to the caliphate, but without

112 Amru's stratagem.

113 Ali depos'd.



Arabia. without laying down his arms, or putting himself in Moawiyah's power.

After his decision, Ali retired to Cufa; where he was no sooner arrived, than 12,000 of these troops who had themselves forced him to accept of the arbitration, pretending to be offended with the step he had taken, revolted from him. These were called *Kharejites*, that is, rebels or revolvers: and *Mobakkemites*, or judiciarians, because they affirmed that Ali had referred to the judgment of men what ought to have been only referred to the judgment of God; and, therefore, that instead of keeping the peace he had made with Moawiyah, he ought to pursue his enemies, who were likewise the enemies of God, without mercy. To this Ali replied, That as he had given his word, he ought to keep it; and, in so doing, he only followed what was prescribed by the law of God. The *Kharejites* replied, That God was the only judge between him and Moawiyah, and that consequently he had committed an enormous sin, of which he ought sincerely to repent. This irritating Ali, he with some warmth replied, That if any sin had been committed on this occasion, it was by themselves, who had forced him to take the steps of which they now complained. This answer not proving agreeable, they chose for their general Abdallah Ebn Waheb, who appointed for their rendezvous Naharwan, a town situated between Waset and Bagdad, about four miles to the eastward of the Tigris. Here they assembled an army of 25,000 men; and Ali, having tried gentle methods ineffectually, at last marched against them in person. Before he attacked them, however, he planted a standard without the camp, and made proclamation by sound of trumpet, that whoever should repair to it should have quarter, and whoever would retire to Cufa should find a sanctuary there. This had such an effect, that Abdallah's army was soon reduced to 4000 men, with whom he rushed upon the caliph's forces; but all of them were cut in pieces, except nine who escaped.

114  
He defeats  
the Khare-  
jites.

Had Ali marched against Moawiyah immediately after the defeat of the *Kharejites*, and while his troops were flushed with victory, he had probably reduced him entirely: but by allowing his troops to refresh themselves, they all deserted him, and Moawiyah's party had an opportunity of gathering still more strength; and though Moawiyah's troops often made incursions into the territories of Ali, the latter seems afterwards to have acted only on the defensive. At last the *Kharejites*, imagining that it would be for the good of the Moslem affairs, that Moawiyah, Ali, and Amru, were dead, despatched assassins to murder all the three. Moawiyah was wounded, but recovered; Amru's secretary was killed by mistake; but Ali was wounded with a poisoned sword, which occasioned his death. The assassin was taken, and Ali would have pardoned him had he recovered, but ordered him to be put to death if he died, that he might, as he said, "have an immediate opportunity of accusing him before God." Even in this order he showed his usual clemency, as he ordered the assassin to be despatched at one blow, and without torture of any kind.

115  
They at-  
tempt to  
murder Ali,  
Amru, and  
Moawiyah.

116  
Ali assassi-  
nated.

Thus fell Ali, the most virtuous of all the Mahometan caliphs, after he had reigned near five years, and lived 63. He was pressed by those about him to nominate a successor before he died; but this he de-

clined, saying, he would follow the example of the Apostle of God, who had not named any: and, as his son Hafan inherited his father's piety, though not his courage, he was declared caliph without any scruple. Moawiyah, however, behaved in such a manner towards him, as showed his hostile intentions; and those about Hafan pressed him to declare war immediately. This Hafan, who was of an exceeding mild and peaceable disposition, could hardly be persuaded to do; and though he at last took the field, yet he immediately perceived his incapacity to dispute the empire with Moawiyah; and therefore resigned it, in spite of all the remonstrances of his friends, to a traitor, who caused him after some years to be poisoned by his wife.

Arabia.  
117  
Succeeded  
by Hafan:

118  
who resigns  
the cali-  
phate to  
Moawiyah.

Moawiyah being thus left sole master of the Moslem empire, found himself under the necessity of reducing the *Kharejites*, who were his enemies as well as Ali's, and had now gathered together a considerable army. Against these rebels the caliph would have despatched Hafan, but that prince refused; upon which he sent the Syrian troops against them, who were defeated: however the Cufans, being at last persuaded to take up arms, soon extinguished the rebellion, and settled Moawiyah more firmly than ever on the Moslem throne. In the 48th year of the Hegira, the caliph sent his son Yezid with a powerful army to besiege Constantinople. In this expedition he was attended by three or four of the *Companions*, who, notwithstanding their age, were prompted by zeal to undergo incredible fatigues. The Moslem forces, too, though they suffered extremely, were animated to surmount all difficulties by a tradition, according to which the prophet in his lifetime declared, "That the sins of the first army that took the city of Constantinople should be forgiven." Concerning the particulars of this expedition we are in the dark: only, in general, that it proved unsuccessful; and in it Abu Ayub, who had been with Mahomet at the battles of Bedr and Ohod, lost his life. His tomb is held in such veneration by the Moslems, that the sultans of the Ottoman family gird their swords on at it on their accession to the throne. In the 54th year of the Hegira, the Arabs made an irruption into Bukharia, and defeated a Turkish army that opposed them. The Turks lost a great number of men; and the queen, who com-

119  
Constanti-  
nople be-  
sieged with-  
out success.

120  
Turks de-  
feated.

manded in person, with great difficulty made her escape. She had only time to put on one of her buskins; the other fell into the hands of the Arabs, who valued it at no less than 2000 dinars. About this time also, according to the Greek historians, a treaty was concluded between the emperor and the Moslems, whereby the latter were allowed to keep the territories they had seized; in consideration of which they were to pay 3000 pounds weight of gold, 50 slaves, and as many choice horses. To these dishonourable conditions they were obliged to submit, in consequence of their late unsuccessful expedition to Constantinople, and some other defeats they had received. This peace was to continue for 30 years. The next year, Moawiyah, having conferred the government of Khorasan upon Saad, Othman's grandson, that general, soon after his promotion, passed the Jihun, or Amu, the Oxus of the ancients, and advanced with a body of troops to Samarcand, which opened its gates to him on his approach; soon after which he defeated an army of Ufbeck Tartars, and marched directly to Tarmud, or Tarmid,



Arabia. mid, which also surrendered without opposition. The 57th year of the Hegira was remarkable for nothing but vast swarms of locusts, which did incredible damage in Syria and Mesopotamia; and great discontents on account of the caliph's having nominated for his successor his son Yezid, a person of scandalous life, and no way worthy of the throne. The 58th year of the Hegira was rendered remarkable by the death of Ayesha, Mahomet's widow; and the 60th by that of Moawiyah, after having reigned, from Hafan's resignation, nineteen years, three months, and five days; but concerning his age authors are not agreed. He was interred at Damascus, which was made the residence of the caliphs as long as the house of Ommiyah continued on the throne.

121  
Moawiyah  
dies.

122  
Succeeded  
by Yezid.

123  
Hosein and  
Abdallah  
refuse to  
acknow-  
ledge him.

Yezid was proclaimed, in consequence of his nomination, the same day his father died. His inauguration was performed on the new moon of the month Rajeb, corresponding to April 7. 680. Immediately after his election, he wrote to Al Walid, governor of Medina, to seize Hosein, the remaining son of Ali, and Abdallah Ebn Zobeir, in case they refused to acknowledge his right. He accordingly tendered the oath of allegiance to Hosein, who returned an evasive answer, and found means to escape to his own house. As for Abdallah, he delayed waiting upon the governor, under various pretences, for 24 hours; after which he made his escape to Mecca; hither Hosein followed him; but received an invitation from the people of Cufa, who promised to assist him in vindicating the rights of his father Ali and himself. In the mean time, Yezid, being informed of Al Walid's negligence in suffering Abdallah and Hosein to escape, removed him from his employment, appointing in his room Amru Ebn Saad, at that time commandant of Mecca. The new governor immediately despatched against Abdallah Amer Ebn Zobeir, Abdallah's own brother, who mortally hated him: but Abdallah having engaged Amer in the field, defeated and took him prisoner; which greatly raised his reputation at Medina, although Hosein's superior interest among them still rendered him incapable of aspiring to the caliphate by himself.

While Abdallah was thus strengthening himself at Mecca and Medina, Hosein was doing the same at Cufa. On the first notice of their inclinations, he had sent to them Moslem Ebn Okail, to whom, as representative of the son of Ali, they had taken an oath of allegiance, and were now very pressing on Hosein to honour their city with his presence. Besides this, Hosein was supported by the forces of Irak, who retained a great veneration for the memory of his father, and had all along considered the government of Moawiyah as a downright usurpation.

Notwithstanding all these steps taken at Cufa in favour of Hosein, the deliberations of the conspirators were carried on with such secrecy, that Al Nooman, the governor, continued a stranger to them, even after the Cufans had determined immediately to enter upon action with an army of 18,000 men. At last, however, he began to be roused from his lethargy; but Yezid being displeased with his conduct, removed him from his government, appointing for his successor Obeidallah Ebn Ziyad. This governor entered the city in the evening, and was received with all possible demonstrations of joy by the Cufans, who mistook him

for Hosein, owing to a black turban which he had on his head, resembling that which Hosein usually wore. His first care was to extinguish the sedition that had been excited by Moslem. In order to this, he commanded a trusty servant to disguise himself, and personate a stranger come out of Syria to see the inauguration of Hosein: that he might get admission into Moslem's house, and penetrate all his councils. This commission was faithfully executed; and Obeidallah understanding that Moslem lodged in the house of one Sharik, who was then sick, sent a messenger to Sharik, letting him know that he intended to visit him on a certain day. Sharik immediately came to a resolution to receive him, and appointed Moslem a place in the corner of the room whence he might rush out upon Obeidallah and kill him. The visit was accordingly made; but Moslem's heart failing him, the governor escaped: Hani, however, in whose house Moslem had first lodged, was imprisoned by Obeidallah. Upon the news of this, Moslem assembled about 4000 men, and besieged Obeidallah in the castle. The governor, however, not in the least dispirited, made a speech to Moslem's followers; which had such an effect upon them that they all deserted him except about 30. By the favour of the night, Moslem escaped to a poor woman's cottage in the neighbourhood; but being betrayed by her son, Obeidallah sent a detachment of 80 horse to seize him. Moslem made a gallant resistance, and thrice cleared the house of them; but being at last overpowered with numbers and grievously wounded, he was taken and brought to Cufa. While on the road, he endeavoured to send an account of his bad success to Hosein, then, as he supposed, on the road to Cufa; but without success. When arrived at the castle he begged a draught of water: but those who stood by told him he should have none till he drank the hamim, or boiling liquor, which the Mahometans pretend is drunk by the damned in hell; and soon after this, being brought before the governor, he was beheaded along with Hani, and both their heads sent as a present to Yezid.

Hosein, in the mean time, was preparing to set out for Cufa, having received the most favourable advices from Moslem, of whose fate he was ignorant, and who had sent him a list of 140,000 men that were ready to obey his orders. This the wisest of his friends represented as a desperate enterprise, and entreated him to drop it, or at least to defer his journey till he should be better assured of success: but Hosein was deaf to all salutary counsel; nay, he would not, by the most earnest entreaties, be prevailed upon to forbear taking his wives and children along with him. The consequences of this obstinacy may easily be imagined: Obeidallah despatched first 1000, and then 5000 men against him; with orders, however, not to offer any violence to him provided he submitted himself. To these terms the infuriated Hosein would not agree: he offered indeed to return home, if Obeidallah would permit; but that not being granted, he desperately engaged the troops of Obeidallah, and was, after long resistance, cut in pieces with all his men. His head was brought to Obeidallah, who struck it over the mouth with a stick, and treated it with great contempt. He was also inclined to have put his family to death: but probably feared an insurrection, as the people of Cufa expressed

124  
Hosein's  
obstinacy.

125  
He is de-  
feated and  
killed.



Arabia.

great resentment on account of Husein's death; nor was it at all agreeable to the caliph Yezid, who treated the family of the unfortunate Husein with the greatest kindness.

This year, the 61st of the Hegira, Yezid appointed Salem Ebn Ziyad governor of Khorasan; who, soon after entering upon the government, made an irruption into the Turkish territories. He took his wife along with him in this expedition, who was delivered of a child in the neighbourhood of Samarcand; on which occasion she is said to have borrowed some jewels from the prince of Sogd's lady, which she afterwards carried off with her. In the mean time Salem detached Mohalleb with a considerable body of troops to Khawarazm, the principal city of the Turks or Tartars in those parts, from which he extorted the immense sum of 50,000,000 pieces of money; from whence advancing to Samarcand, he forced the inhabitants of that city also to pay him an immense sum; and then retired, with little loss, into the province he governed.

In the mean time Abdallah Ebn Zobeir, finding himself, by the death of Husein, at the head of the partizans of the house of Hashem, who were greatly oppressed by Yezid, began in earnest to aspire to the caliphate. As he had therefore never owned the authority of Yezid, he now openly declared against him, and was proclaimed caliph at Medina soon after the arrival of Husein's family in that place. Soon after his inauguration, to render himself the more popular, he expatiated on the circumstances of Husein's death, which indeed were very tragical, and represented the Cufans as the most abandoned and perfidious villains upon earth. This went so well down with the citizens of Mecca and Medina, that they flocked to him in great numbers, so that he soon found himself at the head of a considerable force. The caliph Yezid being informed of his progress, swore he would have him in chains; and accordingly sent a silver collar for him to Merwan, then governor of Medina: but the interest of Abdallah was now so strong, that he laughed at the menaces both of the caliph and Merwan. Nay, the governor of Mecca, though he secretly hated him, thought it good policy, as matters then stood, to keep up a good understanding with Abdallah: but this coming to the ears of Yezid, he deposed the governor; appointing in his place Walid Ebn Otbah, a man of known fidelity, and a bitter enemy of Abdallah. The new governor, therefore, immediately on his accession, used all his art and skill to circumvent Abdallah; but to no purpose, as the latter was always on his guard. This conduct, however, giving him great disgust, as well as terrible apprehensions, he wrote to the caliph, informing him that all the disturbances were owing to the untractable disposition of Walid; and that, if he would send a person of a different character, peace would soon be restored. This letter the caliph very injudiciously gave ear to, and dismissed his faithful governor, appointing in his room one who was totally unqualified for that post. The people of Medina now having fresh intelligence of Yezid's dissolute manner of life, renounced their allegiance to him, and formally deposed him in a very singular manner. After they had assembled in the mosque, about the pulpit there, one of them said, "I lay aside Yezid as I do this turban," and immediately threw his turban on the

126  
Abdallah  
proclaimed  
caliph.

127  
Yezid formally  
deposed.

ground. Another said, "I put away Yezid as I do this shoe," casting away his shoe at the same time. These examples being followed by others, there was a large heap of shoes and turbans almost instantly formed upon the spot. They then dismissed Yezid's governor, and banished from the city all the friends and dependents of the house of Ommiyah. These, to the number of about 1000, took refuge in the house of Merwan Ebn Al Hakem, where they were so closely besieged by Abdallah's party, that they found themselves obliged to send to Yezid for immediate assistance; acquainting him, that if they were not succoured, they must all inevitably perish. The caliph, though he wondered that such a number of men should suffer themselves to be so cooped up without making the least resistance, despatched Moslem Ebn Okba to Medina, with a considerable body of troops, to quell the disturbances. He ordered him to spare Ali the son of Husein and his family, as they had no hand at all in the disturbances: then he was to summon the town of Medina to surrender for three days successively; which if they refused, he was to take it by storm, and give it up to be plundered by the soldiers for three whole days.

The inhabitants of Medina being now sensible of their danger, suffered the friends of the house of Ommiyah to withdraw quietly out of the city; though before they departed, a promise was extorted from them not to appear in arms against the reigning faction. Moslem, in the mean time, advanced towards the city at the head of 5000 foot and 12,000 horse; and having summoned it according to his instructions, upon its refusal made the necessary preparations for an attack. The garrison, however, for a considerable time, made a vigorous defence; but at last, most of the Ansars and principal officers being killed, the Arabs proposed a capitulation. Moslem, however, would hearken to no terms, and insisted on their surrendering at discretion; which being refused, he entered the city after a faint resistance. Ali was treated with great respect; but all the men that had carried arms were put to the sword, and Moslem suffered his troops to ravish 1000 women, and to pillage the city for three days successively. Those that escaped the slaughter he forced to acknowledge themselves the slaves and vassals of Yezid. For this extreme severity he was furnished by the Arabs *Al Musrif*, or *The extravagant*, and ever after considered as an impious person, especially as the prophet had declared that the wrath of God should most certainly remain upon those who sacked or plundered the city of Medina.

After the reduction of Medina, Moslem directed his course to Mecca, where Abdallah then resided; but he died by the way, and the command of the troops devolved upon Husein Ebn Thamir Al Selwi. This general advanced to Mecca, which he besieged for 40 days, battering the town with such fury, that he beat down a great part of the famous temple there, and burnt the rest; nor would the city itself have escaped the same fate, had not an end been put to the war by the arrival of certain accounts of the death of Yezid, who departed this life in the 64th year of the Hegira, answering to the year 684 of the Christian era, having lived 39, and reigned three years and six or eight months. On the news of his death, Husein offered to

Arabia.

128  
Medina taken  
and plundered  
by the caliph's forces.

129  
Yezid dies.

take



Arabiā. take the oath of allegiance to Abdallah; but the latter at that time durst not trust him, of which he had afterwards sufficient reason to repent.

<sup>130</sup> Moawiyah II. proclaimed caliph, and resigns. Yezid was succeeded by his son Moawiyah II. who was proclaimed caliph at Damascus the same day that his father died; but being of a weakly constitution, and unable to bear the fatigues of government, resigned the crown six weeks after his inauguration, and died soon after without naming a successor.

<sup>131</sup> Obeidallah forced to fly into Syria. This abdication having left the Moslem empire absolutely without a master, great commotions ensued. On the death of Yezid, Obeidallah Ebn Ziyad, governor of Basra, represented to the citizens that they ought to choose a protector till a new caliph should be chosen; and if the person so chosen should be disagreeable to them, they might then remain in a state of independency under the protector whom they had chosen. The inhabitants, perceiving the drift of this speech, complimented him with that honour; which he accepted with seeming difficulty: but sending a deputy to Cufa, the inhabitants of that city not only refused to acknowledge his authority, but threw dust and gravel at his messenger. This coming to the ears of the people of Basra, they not only deprived Obeidallah of the dignity they had newly conferred upon him, but even expelled him the city. Nor could he prevail upon the Najari, a tribe of Ansars, to espouse his quarrel, nor even upon his own relations, though he distributed among them great part of the sixteen millions of pieces of money which he had found in the treasury of Basra, and kept the remainder to himself. Nay, so odious had he rendered himself to all ranks, on account of his cruelties, particularly the death of Husein the son of Ali, that his brother Abdallah was unable to protect him from the fury of the populace, though he kept him concealed in women's clothes, and distributed among the mob 200,000 pieces of money. He was therefore at last constrained to leave the city, attended by a guard of 100 men. Immediately after his departure, the mob plundered his house, and pursued him, so that he was obliged to exchange his camel for an ass, and thus with the utmost difficulty escaped into Syria.

In the mean time, Husein Ebn Thamer, being returned into Syria with the forces under his command, gave a faithful account of the situation of affairs in Arabia to Merwan Ebn Al Hakem. He also acquainted him of the offer he had made to Abdallah of the oath of allegiance, which the latter had refused, or at least would not come to Damascus in order to be invested with the supreme authority there. On this account he advised Merwan to take care of himself and the rest of the house of Ommiyah, who had fled to Damascus after their expulsion from Medina. On this discourse Merwan was inclined to submit to Abdallah; but was diverted from it by Obeidallah, who insisted that no superior ought to be acknowledged by Merwan, who was at the head of the Koreish. The people of Damascus had constituted Dahak Ebn Kais their protector, who inclined to Abdallah. The Basrans were at this juncture entirely in tumult and confusion, not being able to agree about a protector after the expulsion of Obeidallah; so that at last they wrote to Abdallah, offering him the government of their territory. This he accepted, but could not be prevailed upon to stir

from Mecca: nor could Merwan be persuaded to suffer any of the Syrians to perform the pilgrimage to Mecca, lest they should join Abdallah, and thereby contribute to his exclusion from the throne.

In the midst of this confusion Abdallah might have easily secured the caliphate to himself, had he not with the utmost imprudence as well as inhumanity given orders for the extermination of the house of Ommiyah. This ruined his affairs; for they being now obliged to provide for their own safety, Merwan was proclaimed caliph at Damascus; and thus the whole Moslem empire was rent into two potent factions, the one under Merwan and the other under Abdallah.

We have already observed, that Dahak Ebn Kais inclined to favour Abdallah. This he continued to do after Merwan was proclaimed caliph, inasmuch that a battle soon ensued between his followers and those of Merwan, in which Dahak was defeated and killed; and thus Merwan became master of all the province of Syria. Soon after this victory, Merwan advanced with a considerable body of troops towards Egypt; but sent before him Amru Ebn Said with a detachment, in order to facilitate his passage. That general having defeated Abdalrahman, Abdallah's lieutenant, in several brisk actions, he at last surrendered the whole country to Merwan for a sum of money, and retired with the Arabs under his command to Hejaz. The Syrian troops, therefore, immediately took possession of that country, and obliged the inhabitants to take an oath of allegiance to Merwan; who having appointed his son Abdalaziz to preside over Egypt, returned with the greatest part of his forces to Damascus. Here he was informed that Abdallah had despatched against him his brother Musab with a considerable army. Against him Merwan despatched Amru Ebn Said; who having soon come up with him, gave him a total defeat, and dispersed his troops in such a manner that Musab found it impossible to rally them again.

<sup>133</sup> Abdallah's forces defeated by Merwan's. In the 65th year of the Hegira, the inhabitants of Cufa, pretending to be seized with remorse of conscience for their treachery to Husein the son of Ali, raised an insurrection against both the caliphs, and therefore assembled a body of 16,000 men, under the command of one Soliman, who was to revenge the death of Husein upon Obeidallah Ebn Ziyad and his adherents. But while Soliman and his troops remained yet inactive, Al Mokhtar, who had served under Abdallah, and was disgusted at not having been promoted as he expected, arrived at Cufa, and representing the incapacity of Soliman, who indeed appears to have been totally unfit for such an enterprise, offered to take the command upon himself. This, however, was refused; and as Al Mokhtar had no opinion of Soliman's military capacity, he found means to draw off 2000 of his troops; while 10,000 more chose rather to violate the oaths they had taken, than run the risk of being cut to pieces by a superior enemy. Soliman, however, put a good face upon the matter; and, telling his troops that they were to fight for another world and not this, set forward to invade Syria with the 4000 who remained with him: but being advanced as far as Ekfas upon the Euphrates, he found that he had lost 1000 men by desertion; nor was he joined by the Separatists of Basra and Al Madayen, though they had promised him a reinforcement. Firmly persuaded, however,



Arabia.

however, that his cause was the cause of heaven, Soliman continued his march all night, and next day arrived at the tomb of Hufein, where his men performed their devotions with such enthusiasm of penitence, that one present swore he never saw such crowding about the black stone in the temple of Mecca itself.—Continuing still to advance, he received a friendly letter from Abdallah Ebn Yezid, the governor of Cufa, advising him to return, and representing to him the folly of engaging so powerful an army as would be sent against him, with a handful of men: but Soliman, imagining that he was only recalled in order to support Abdallah Ebn Zobeir in his pretensions to the caliphate, persisted in his resolution of penetrating into Syria. He told his troops, that they would never be nearer the two Hufeins (Hufein, and his brother Hafan, to whom also the Shiites gave that name) than they were at present; and that should they at this time meet with death, they would be in a state of repentance, and consequently could never die in a more proper time; and after this speech, continuing still to advance, he was at last met by Obeidallah at the head of 20,000 horse, who, after an obstinate engagement, cut to pieces Soliman and all his troops.

137  
He is cut in  
pieces with  
all his men.  
138  
Merwan  
dies.

Soon after this decisive action died the caliph Merwan, after he had reigned eleven months. He is said by some authors to have been poisoned by his wife Zeinab, Moawiyah's widow. Her he had married, with a promise that her son Khaled should succeed him; but afterwards altering the succession in favour of his own son Abdalmalec, young Khaled reproached him with his breach of promise: upon this Merwan calling him *bastard*, the child complained to his mother; who, to be revenged for this affront, is said to have poisoned him, or smothered him with a pillow.

In the beginning of the caliphate of Abdalmalec, Al Mokhtar, who had been imprisoned by the governor of Cufa, was released at the intercession of Abdallah Ebn Omar, who had married his sister. The year following, having put himself at the head of the Shiite sectaries, he sent proposals of alliance to Abdallah Ebn Zobeir; but he, justly suspecting his sincerity, by a stratagem cut off near 3000 of his men. Upon this disaster, Al Mokhtar, fearing the house of Ali might be intimidated, sent a letter to Mahomet Ebn Hanifyah, one of that family, in which he offered his assistance with a powerful army. This offer Mahomet declined, declaring himself only for pacific measures; but though he and all the rest of Ali's family behaved in the most peaceable manner, Abdallah did not think himself safe till they owned his authority. He therefore imprisoned them, together with 17 of the principal citizens of Cufa, whom he threatened to put to death, and afterwards burn their bodies, if they did not within a limited time take an oath of allegiance to him. Al Mokhtar being informed of the distressed situation they were in, sent a body of 750 horse to Mecca, under Abu Abdallah, to release them. That general not only executed his orders with great bravery, but took Abdallah himself prisoner, whom he would have cut to pieces on the spot, had he not been released at the intercession of Mahomet, who for the present adjusted the differences to the mutual satisfaction of all parties. After this reconciliation, Abu Abdallah, or rather Mahomet himself, distributed among 4000 of Ali's friends a sum of

139  
Narrow e-  
scape of the  
family of  
Ali.

money brought for that purpose, in order to indemnify them for the losses they had sustained. Thus the friends of Ali were happily delivered, when only two days of the time granted them by Abdallah remained, and a sufficient quantity of wood and other combustibles was collected, in order to consume their bodies. Notwithstanding the reconciliation, however, that had lately taken place, Mahomet Ebn Hanifyah thought proper to post himself on a mountain near Mecca with a body of 4000 men.

The Cufans having received advice before Merwan's death, that he had sent Obeidallah with a powerful army towards their city, and even given him permission to plunder it in case it should be taken, appointed Yezid Ebn Ares, a man of undaunted courage, to oppose him; but Merwan dying before Obeidallah could execute his commission, an end was put for the present to this expedition. The memory of it, however, still remained; and Al Mokhtar, to whom Obeidallah was personally obnoxious, assembled a body of troops to act offensively against him, and even against the Syrian caliph himself in case he should support Obeidallah.

Among other preparations for this enterprise, Al Mokhtar caused a kind of portable throne to be made, telling his troops, that, "it would be of the same use to them that the ark was to the children of Israel." It was therefore carried on a mule before the troops that were to march against Obeidallah, and the following prayer said before it: "O God! grant that we may live long in thy obedience; help us; and do not forget us, but protect us." This expedient was so well adapted to the hot-headed enthusiasts who composed Al Mokhtar's army, that they attacked Obeidallah's camp, defeated him, and gained a complete victory. Obeidallah himself was killed in the action, his head sent to Al Mokhtar, and his body reduced to ashes.—By this victory the sectaries were rendered so formidable, that Nisibin or Nisibis, and several other cities, surrendered to them without opposition. They now began to entertain thoughts of deposing both the caliphs, and placing on the Moslem throne one of the family of Ali; but all their towering hopes were soon frustrated by the defeat and death of Al Mokhtar by Musab brother to Abdallah Ebn Zobeir. Al Mokhtar, after being defeated in a general engagement by Musab, fled to the castle of Cufa, where he defended himself with great bravery for some time; but being at last killed, his men, to the number of 7000, surrendered at discretion, and were all of them put to the sword on account of the outrages they had committed.

The next year, the 68th of the Hegira, the Azarakites, so denominated from Nafe Ebn Al Azarak, the author of their sect, having assembled a considerable force, made an irruption into Irak. They advanced almost to the gates of Cufa, and penetrated to Al Madayen. Being sworn enemies of the house of Ommyyah, and acknowledging no government, spiritual or temporal, they committed terrible ravages in every part of the Moslem territories through which they passed. They carried their excesses to such a height as to murder all the people they met with, to rip open women with child, and commit every species of cruelty that could be invented upon the inhabitants without distinction. The governor of Mawfel and Mesopotamia, being

Arabia.

140  
Impiety of  
Al Mokhtar.

141  
Obeidallah  
defeated  
and killed.

142  
Al Mokhtar  
defeated  
and killed  
by Musab.

143  
Horrid  
cruelties  
committed  
by the A-  
zarakites.

ing



Arabia.

ing informed of these unparalleled outrages, marched against them with a body of troops, and carried on a brisk war with them for eight months. During this period their leader Nafe Ebn Al Azarak died; and was succeeded by Katri Ebn Al Fojat, under whose conduct they continued their depredations. Mufab not being pleased with his lieutenant's management of the war, recalled him, and sent in his place one Omar Ebn Abdallah Temini, who gave the Azarakites a great overthrow at Naifabur in Khorasan, put many of them to the sword, and pursued the rest as far as Ispahan and the province of Kerman. Here having received a reinforcement, they returned into the province of Ahwaz, and did incredible damage to the country through which they passed. But Omar advancing against them a second time, they retired at his approach to Al Madayen, ravaging the district belonging to the city in a dreadful manner. However, Omar pursuing them thither also, they fled into the province of Kerman, and thence gradually dispersed themselves. This year there was a grievous famine in Syria, which suspended all military operations.

144  
They are  
defeated  
and disper-  
ed.

The next year, being the 69th of the Hegira, Abdalmalec left Damascus to march against Mufab. In his absence he left Amru Ebn Said governor of the city; but he immediately seized upon it for himself, which obliged the caliph to return. After several skirmishes had happened between some detachments of the caliph's troops with those of Amru, a pacification was concluded at the intercession of the women: but Abdalmalec barbarously put Amru to death with his own hand, notwithstanding his promise; and was immediately seized with such a tremor, that he lost the use of almost all his faculties, and was obliged to be laid in bed. In the mean time the palace was attacked by Yahyah, Amru's brother, at the head of 1000 slaves. After a warm dispute, they forced open the gates, killed several of the guards, and were upon the point of entering the palace, when the people within threw Amru's head among them. This so cooled their ardour, that they desisted from the attempt; and some money having been afterwards distributed among them, they retired. So great, however, was Abdalmalec's avarice, that after the tumult was appeased, he recalled all the money which had been distributed, and commanded it to be deposited in the public treasury.

145  
Barbarity  
of Abdal-  
malec.

In the 70th year of the Hegira, the Greeks made an irruption into Syria; and Abdalmalec having occasion for all his forces to act against Abdallah Ebn Zobeir, was obliged to pay a tribute of 1000 dinars per day, according to Theophanes, and send every year 365 slaves and as many horses to Constantinople. In this treaty, it was also stipulated, that the revenues of Cyprus, Armenia, and Heria, should be equally divided between the caliph and the Greek emperor.

146  
Disgrace-  
ful treaty  
with the  
Greeks.

147  
Mufab de-  
feated and  
killed by  
Abdalmalec.

Abdalmalec being now at leisure to pursue his intended expedition against Mufab, marched against him in person; and having arrived at Masken, a small town on the frontiers of Mesopotamia, where he was waited for by Mufab, the latter was defeated through the treachery of his troops, and himself killed. After the battle, Abdalmalec repaired to Cufa, where he was received with the utmost submission; and people of all ranks came in crowds to take the oath of allegiance to

him. He then ordered vast sums of money to be distributed among them, and gave a splendid entertainment to his new subjects, to which even the meanest of them were not refused admittance. During this entertainment, the unfortunate Mufab's head was presented to the caliph; upon which one of the company took occasion to say to him, "I saw Hofein's head in this same castle presented to Obeidallah; Obeidallah's to Al Mokhtar; Al Mokhtar's to Mufab; and now at last Mufab's to yourself." This observation so affected the caliph, that, either to avert the ill omen, or from some other motive, he ordered the castle to be immediately demolished. Abdallah Ebn Zobeir, in the mean time, having received the melancholy news of the defeat and death of his brother, assembled the people of Mecca, and from the pulpit made a speech suitable to the occasion. He also did his utmost to put Mecca in a proper posture of defence, expecting a speedy visit from his formidable competitor, who now gave law to Irak, Syria, and Egypt, without controul.

Arabia.

Soon after Abdalmalec's return to Damascus, he appointed his brother Bafhar governor of Cufa, and Khaled Ebn Abdallah governor of Bafra. The latter had no sooner entered upon his office, than he indiscreetly removed from the command of the army Al Mohalleb, one of the greatest generals of the age; appointing in his room Abdalaziz, who was greatly his inferior in military skill. Of this dismissal the Azarakites being informed, they immediately attacked Abdalaziz, entirely defeated him, and took his wife prisoner. A dispute arising among the victors about the price of that lady, one of them, to end it, immediately cut off her head. Upon this disaster, Khaled was commanded to replace Al Mohalleb, which he did; and having in conjunction with him attacked the Azarakites, forced their camp, and entirely defeated them.

148  
Azarakites  
defeated.

In the 72d year of the Hegira, Abdalmalec having no enemy to contend with but Abdallah Ebn Zobeir, made great preparations for an invasion of Hejaz, giving the command of the army to be employed on this occasion to Al Hejaj, one of his most warlike and eloquent captains. Before that general had put his army in march for Mecca, he offered his protection to all the Arabs there that would accept of it. Abdallah being informed of the enemy's approach, sent out several parties of horse to reconnoitre, and give him intelligence of their motions. Between these and some of Al Hejaj's advanced guards several skirmishes happened, in which Abdallah's men had generally the worst. This encouraged Al Hejaj to send to the caliph for a reinforcement, his troops amounting to no more than 2000 men, who were insufficient for reducing Mecca. He assured him at the same time, that Abdallah's fierceness was very much abated, and that his men deserted to him daily. The caliph, upon this, ordered a reinforcement of 5000 men under the command of Tharik Ebn Amer; but notwithstanding this additional strength, he made but little progress in the siege for some time. While he battered the temple of Mecca with his machines, it thundered and lightened so dreadfully, that the Syrians were struck with terror, and refused to play them any longer upon that edifice. Upon this Al Hejaj stuck the corner of his vest into his girdle, and putting into it one of the stones that was to

149  
Mecca be-  
sieged by  
Al Hejaj.

be



Arabia. be discharged out of the catapults, flung it into the town, and this occasioned the recommencement of the operations. The next morning the Syrians were annoyed by fresh storms, which killed 12 men, and quite dispirited them. Al Hejaj, however, animated them, by observing that he was a son of Tehama; that this was the storm of Tehama, and that their adversaries suffered as much as they. The day following some of Abdallah's men were killed by a very violent storm, which gave Al Hejaj a further opportunity of animating his troops. At last, Abdallah having been deserted by most of his friends, 10,000 of the inhabitants of Mecca, and even by his own sons Hamza and Kho-beib, desired to know his mother's sentiments as to what course he was to take. He represented to her, that he was almost entirely abandoned by his subjects and relations; that the few who persisted in their fidelity to him could scarce enable him to defend the city any longer; and that the Syrian caliph would grant him any terms he should think fit to demand. His mother, however, being of an inflexible resolution, and not able to bear the thoughts of seeing her son reduced to the rank of a private person, being herself the daughter of Abu Becr, the first caliph, advised him by no means to survive the sovereignty, of which he was on the point of being deprived. This advice being agreeable to his own sentiments, he resolved to die in defence of the place. In pursuance of this resolution, he defended the city, to the amazement of the besiegers, for ten days, though destitute of arms, troops, and fortifications. At last, having taken a final leave of his mother, and being animated by despair, he made a sally upon the enemy, destroyed a great number of them with his own hand, and was at length killed fighting valiantly upon the spot. At the last interview he had with his mother, she is said to have desired him to put off a coat of mail he had on for his defence; and, in order to inspire him with the greater fortitude, she gave him a draught in which a whole pound of musk had been infused. Al Hejaj ordered his head to be cut off, and his body to be affixed to a cross; and by reason of the musk he had drank, the body emitted a grateful odour for several days.

150  
Abdallah  
killed.

By the reduction of Mecca, and the death of Abdallah Ebn Zobeir, Abdalmalec remained sole master of the Moslem empire; but he sustained a great loss next year, in having an army of 100,000 men totally cut off by the Khazarians in Armenia. The governor, however, having marched in person against them at the head of only 40,000 men, but all chosen troops, penetrated into the heart of Armenia, defeated and dispersed a large body of the Khazarians, drove them into their temples, and reduced them to ashes. One of his generals also defeated an army of 80,000 Khazarians at the Iron or Caspian Gates, and destroyed a great number of them, obliging the rest to embrace the Mahometan religion.

151  
Khazarians  
reduced.

152  
Cruelty of  
Al Hejaj.

Al Hejaj, in consequence of his services, was made governor, first of Medina, and then of Irak, Khorasan, and Sijistan; in all which places he behaved with the greatest cruelty. Having entered the city of Cufa muffled up in his turban, he was surrounded by crowds of people who pressed forward to see him. He told them their curiosity would soon be gratified; which he

effectually did, by ascending the pulpit, and treating them in a very coarse manner; swearing that he would make the wicked bear his own burden, and fit him with his own shoe; and telling them, among other things, that "he imagined he saw the beads of men ripe and ready to be gathered, and turbans and beards besprinkled with blood." At Basra he made a speech much to the same purpose; and, to give the inhabitants a taste of his discipline, caused one of them who had been informed against as a rebel to be beheaded on the spot without any trial. So great indeed was the abhorrence in which he was held by those over whom he presided, that having once recommended himself to the prayers of a religious Moslem, the latter instantly prayed that it would please God to kill Al Hejaj quickly; "for nothing, said he, could be more advantageous for himself or the people." In consequence of these cruelties, rebellions were soon raised against him; but they were easily suppressed, and Al Hejaj continued in the full enjoyment of all his employments till he died.

Arabia.

In the 76th year of the Hegira, one Saleh Ebn Marj, a hot-headed enthusiast, and Shebib Ebn Zeid, a Kharejite, took up arms against the caliph. They had conspired against him the year before when on a pilgrimage to Mecca; and Al Hejaj had been ordered to seize them: but at that time they found means to make their escape; and having now assembled about 120 men, Saleh was proclaimed emperor of the faithful at Daras in Mesopotamia. The governor soon received intelligence of their motions; and ordered a body of 500 men, under the command of one Adi, to march against them: but that general, being afraid to attack them notwithstanding his superiority in numbers, demanded a reinforcement. He therefore was supplied with 500 more troops, with which he advanced to Daras: but being still afraid of the rebels, he entered into negotiations with them; during which they attacked him, entirely defeated his army, and made themselves masters of his camp. Upon this the governor sent a detachment of 1500 horse against them; but the rebels, notwithstanding the smallness of their number, defended themselves in such a manner, that the caliph's troops were forced to dismount and fight on foot. The engagement continued till night; when the rebels, finding themselves unable to contend with such numbers, retired to Mawfel. After this, Al Hejaj being informed that they had taken post at Dascara, sent against them an army of 5000 men. The rebels, hearing of this formidable army, abandoned their camp; but were so closely pursued, that they found themselves obliged to stand an engagement at Modbaj, a small village on the Tigris. Saleh's forces, consisting only of three companies of 30 men each, were soon thrown into disorder, and himself killed: but Shebib made an excellent retreat to a neighbouring castle; from whence he sallied out at midnight on the caliph's forces, penetrated to the very heart of the camp, where he wounded the general himself, and dispersed the greatest part of his army.

153  
Saleh and  
Shebib re-  
bel.

154  
Their bra-  
very.

155  
Saleh kill-  
ed.

After this victory, the rebels became terrible even to Al Hejaj himself, whom they afterwards defeated in several engagements; and taking advantage of his being at Basra, made themselves masters of Cufa with little opposition. Al Hejaj was now constrained to write

156  
Al Hejaj  
defeated by  
Shebib.

write



Arabia. write to the caliph for a strong detachment of the Syrian troops, with which he advanced against Shebib; whose army bearing no proportion to that of Al Hejaj, the former was totally defeated, had his wife's brother killed in the action, and was obliged to fly into Kerman. Having refreshed his men in this province, he again advanced to Ahwaz, where he was met by one of Al Hejaj's generals at the head of the Syrian army. Shebib defended himself with incredible valour, and several times repulsed the caliph's forces; but being overpowered by numbers, as his army consisted of no more than 600 men, he was at last put to flight, and, in passing a bridge, was thrown off by his horse and drowned. His body was drawn up by a net, and the head sent to Al Hejaj, who was not a little pleased at the fight. After his death, the rebels quarrelled among themselves, so that the caliph's troops cut off the greatest part of them. The remainder, under Katri Ebn Fojat, fled to Tabrestan. Here they were kindly received by Ashid the king, who assigned them a part of his territories for their habitation. But they had not been long settled before they insisted upon Ashid's either embracing Mahometanism, or paying them an annual tribute; which he refusing, they drove him into Irak, where he implored the caliph's protection. Ashid afterwards conducted a body of Moslem troops into Tabrestan; where they fell upon the rebels with such fury, that they killed Katri himself, cut a great number of his men to pieces, and took all the rest prisoners.

157 Shebib's valour and death.

158 Ingratitude of the rebels.

159 They are all destroyed.

This year also (the 76th of the Hegira) money was first coined in Arabia. Before this time, the dinars, or gold coins, had Greek inscriptions; and the dirhems, or silver ones, Persic inscriptions. The first erection of a mint in Arabia was occasioned by the following accident. Abdalmalec added to the letters he wrote to the Greek emperor this short passage of the Koran, "Say, God is one;" or "Say, there is one God;" and then inserted the year of the Hegira, with the name of the prophet, in such a manner as gave the emperor great offence. Upon this he wrote to Abdalmalec, desiring him to alter that manner of writing, or he would send him some coins in which the name of Mahomet should be mentioned in such a manner as would not prove very agreeable. Abdalmalec now resolved to coin money of his own; and accordingly some dirhems were this year stamped by Al Hejaj, with the inscription *Alla Samad*, "God is eternal;" which gave great offence to the superstitious Moslems, as they imagined that the name of God would be thereby profaned by the touch of unclean persons.

160 Money first coined in Arabia.

In the 77th year of the Hegira, the Arabs made an incursion into the imperial territories, and had Lazica and Bernucium betrayed to them; and the next year they made themselves masters of Africa Propria, demolishing the city of Carthage so effectually, that scarce a vestige of it was left. They were soon driven out, however, by John the Patrician, a man of great valour and experience in war; but returning with a superior force, they obliged John in his turn to fly to Constantinople.

161 Carthage demolished.

The 79th year of the Hegira is remarkable for nothing but the rebellion of Abdalrahman in Persia; who drove the khan, or emperor of the Turks, Tartars, or Moguls, out of that country: but the fol-

lowing year, one of the Greek generals, named *Heraclius*, penetrated into Syria as far as Samofata, and destroyed 200,000 Arabs, ravaging the country in a terrible manner; and Abdalrahman was defeated and killed by Al Hejaj, after a great number of engagements, some say 81, and others 100. In the 83d year of the Hegira, the nobility of Armenia revolting, drove the Arabs out of that province; but Mahomet, one of the caliph's generals, entering the country with a powerful army, got the authors of the revolt into his hands, and caused them all to be burnt alive. Encouraged by this success, the Moslems invaded Cilicia under one Azar; but were, to the number of 10,000, cut in pieces by Heraclius; and the next year, having again entered that country, 12,000 of them were destroyed by the same general, and the rest forced to fly into their own country.

162 200,000 Arabs destroyed by Heraclius.

In the 86th year of the Hegira died the caliph Abdalmalec, after a reign of 21 years. He is said to have had such a stinking breath, that the flies which accidentally settled on his lips were almost instantly struck dead by it. He was succeeded by Al Walid, who greatly extended the Moslem dominions. The first year of his reign, one of his generals having passed the Oxus (now the Jihun), defeated a numerous army of Turks and Tartars. He then overran and entirely reduced the countries of Sogd or Sogdiana, Bagras, Shash, Targana, and the whole immense tract going under the name of Mawaralnahr, or Great Bukharia. He also conquered the khan of Khowarazm, obliging him to pay an annual tribute of two millions of dinars. About the same time another general, called *Mahomet*, made an irruption into India, and subdued a considerable part of that country. He also entirely subdued the kingdom of Al Sind, lying between Persia and India. In this expedition, Derar king of Al Sind was defeated and killed, and had his head cut off by Mahomet.

163 Abdalmalec dies.

164 Prodigious conquests of the Moslems.

In the 90th year of the Hegira, the Moslems made an irruption into Cappadocia, defeated the emperor's army who opposed them, and took the city of Tyana. The next year they made another incursion into the imperial territories, whence they carried off vast numbers of slaves; and the year following one Othman penetrated into the heart of Cilicia, where he made himself master of several cities, but does not appear to have long kept his conquests.

In the 93d year of the Hegira, answering to that of Christ 712, Tarik Ebn Zarka made a descent on Spain, defeated Roderic the last king of the Goths, reduced the city of Toledo, and overran a considerable part of the kingdom. Being afterwards joined by Musa, commander of the African Moslems, the two generals made themselves masters of most of the fortresses, subjugating in a manner the whole country, and obliging it to pay tribute to the caliph. In these expeditions the Moslems acquired spoils of immense value; and, amongst other things, an exceeding rich table, called by the Arab writers "the table of Solomon the son of David." According to these writers, this table consisted entirely of gold and silver, and was adorned with three borders of pearls; but Roderic of Toledo, a Spanish historian, says it consisted of one entire stone, of a green colour, and of an immense size, having no less than 365 feet. He adds, that it was found

165 They make a descent on Spain.

166 and over-ran the whole country.



Arabia. found in a certain village or town, near the mountain called in his days *Jibal Soliman*, or "the mountain of Solomon."

After Musa and Tarik had committed dreadful depredations in Spain, they were both recalled by the caliph; but the next year, Tarik having undertaken another expedition into the same country, landed a body of 12,000 men at Gibraltar, with which he plundered the whole province of Bætica, and overran the greatest part of Lusitania. Roderic hearing of these depredations, sent against him an army of raw undisciplined troops, who were easily defeated, and most of them left dead on the spot; which so animated the Arab commander, that he resolved not to lay down his arms till he had made an absolute conquest of Spain. About the same time that Tarik made such progress in Spain, another Moslem general entered Pisidia with a powerful army, took the city of Antioch, and, after having ravaged the country, retired into the caliph's territories with very little loss.

167  
Al Hejaj  
dies.

In the 95th year of the Hegira died Al Hejaj governor of Irak, &c. after he had presided over that country 20 years. He exercised such cruelties upon those who were in subjection to him, that he is said to have killed 120,000 men, and to have suffered 50,000 men and 30,000 women to perish in prison. To excuse this cruelty, he used frequently to say, That a severe, or even violent government, is better than one too weak and indulgent; as the first only hurts particular persons, but the latter the whole community. This year also the Arabs gained a complete victory in Spain over Roderic king of the Goths, who perished in the action. In this campaign, Tarik possessed himself of immense treasures; by which means he was enabled to reward not only his officers, but common soldiers also. In the eastern parts of the world also, the Arabs were this year very formidable; Moslema, an Arab general, having entered the imperial territories, ravaged the whole province of Galatia, carrying off with him many rich spoils, and a vast number of prisoners. The Greek emperor, hearing that Al Walid designed to attack him both by sea and land, sent some of his nobles to treat of a peace; and, among other things, desired them to bring him a particular account of the force with which the caliph designed to invade the Greek empire. This they represented as so terrible; that it would be next to impossible to oppose it. The emperor therefore caused a great number of light ships to be built, the walls to be repaired, and ordered such of the citizens as had not laid up provisions for three years to depart the city. Al Walid, in the mean time, continued his warlike preparations with the utmost vigour, being determined to make himself master of Constantinople in a single campaign.

168  
Al Walid  
dies, and is  
succeeded  
by Soliman.

169  
Constanti-  
nople un-  
successfully  
besieged.

In the 96th year of the Hegira died the caliph Al Walid; and was succeeded by his brother Soliman. This year the Moslem conquests on the east side were increased by the reduction of Tabrestan and Jurgan or Georgia. In Spain, also, the city of Toledo which had revolted was reduced, and Cæsarea Augusta, now Saragossa, as well as several others. The next year Moslema set out for Constantinople, which he besieged without success till the 99th year of the Hegira; at which time he was obliged to return, after having lost before it 120,000 men. The soldiers were reduced to

the greatest extremities of hunger, being forced to live upon hides, the roots and bark of trees, the most noisome animals, and even the dead bodies of their companions. This year also (the 99th of the Hegira) is remarkable for the death of the caliph Soliman. According to some, he was poisoned by Yezid his brother, governor of Persia, who was displeased with his having appointed his cousin-german, Omar Ebn Abdalaziz, as his successor, to the exclusion of himself. According to others, he died of an indigestion; which is not greatly to be wondered at, if, as those authors say, he used to devour 100 pounds weight of meat every day, and dine very heartily after eating three lambs roasted for breakfast. In the latter part of his reign, the Moslems were by no means successful in Spain: the kingdom of Navarre being founded at this time by Pelagius, or Pelayo, whom the Arabs were never able to reduce.

Arabia.  
170  
Death of  
Soliman.

The new caliph Omar Ebn Abdalaziz was by no means of a martial character; but is said to have been very pious, and possessed of very amiable qualities. He suppressed the usual malediction, which was solemnly pronounced by the caliphs of the house of Ommiyah against the house of Ali; and always showed great kindness to the latter. He was poisoned by Yezid, after a short reign of two years and five months. It is related, as an instance of this caliph's humility, that when Moslema visited him in his last sickness occasioned by the poison, he lay upon a bed of palm tree leaves, supported by a pillow formed of beasts skins, and covered with an ordinary garment. He had also on a dirty shirt; for which Moslema blamed his sister Fatima, Omar's wife; but she excused herself by telling him, that the emperor of the faithful had not another shirt to put on.

171  
New caliph  
poisoned.

Concerning Yezid the successor of Omar we find very little worth mentioning. He did not long enjoy the dignity he had so iniquitously purchased, dying after a reign of little more than four years. He died of grief for a favourite concubine named *Hababab*, who was accidentally choked by a large grape which stuck in her throat.

Yezid was succeeded by his brother Hesham, who ascended the throne in the 105th year of the Hegira. In the second and third year of his reign, several incursions were made into the imperial territories, but generally without success. In the 109th year of the Hegira, Moslema drove the Turks out of Armenia and Aderbijan, and again confined them within the Caspian Gates. The next year he obliged them to take an oath that they should keep their own country; but this they soon violated, and were again driven back by Moslema. About this time also the Arabs, having passed the Pyrenees, invaded France to the number of 400,000, including women and slaves, under the command of one Abdalrahman. Having advanced to Arles upon the Rhone, they defeated a large body of French that opposed them; and having also defeated Count Eudo, they pursued him through several provinces, wasted the whole country with fire and sword, making themselves masters of the city of Tours, most of which they reduced to ashes. Here, however, a stop was put to their devastations by Charles Martel; who, coming up with them near the above-mentioned city, engaged them for seven days together, and at last gave them a total overthrow.

172  
The Turks  
defeated.

173  
France in-  
vaded by  
the Arabs.

174  
They are  
utterly de-  
feated by  
Charles  
Martel.



Arabia.

overthrow. The French general made himself master of all their baggage and riches; and Abdalrahman, with the shattered remains of his army, reached the frontiers of Spain with the utmost difficulty. The following year also, according to some historians, the Arabs were overthrown at Illiberis, scarce any of them making their escape. To make amends for this bad fortune, however, the caliph's arms were successful against the Turks, who had again invaded some of the eastern provinces.

175  
Reign of  
Merwan.

In the 125th year of the Hegira died the caliph Hesham, after a reign of 19 years, seven months, and eleven days. He was succeeded by Al Walid II. who is represented as a man of a most dissolute life, and was assassinated the following year on account of his professing *Zendicifm*, a species of infidelity nearly resembling Sadducifm. He was succeeded by Yezid the son of Al Walid I. who died of the plague, after a reign of six months; and was succeeded by Ibrahim Ebn Al Walid, an imprudent and stupid prince. He was deposed in the 127th year of the Hegira by Merwan Ebn Mahomet, the governor of Mesopotamia; who gave out, as an excuse for his revolt, that he intended to revenge the murder of the caliph Al Walid II. He was no sooner seated on the throne, than the people of Hems rebelled against him. Against them the caliph marched with a powerful army; and asking them what could excite them to this rebellion, summoned them to surrender. They assured him that they were disposed to admit him into their city; and, accordingly, one of the gates being opened, Merwan entered with about 300 of his troops. The men that entered with him were immediately put to the sword; and the caliph himself escaped with great difficulty. However, he afterwards defeated them in a pitched battle, put a great number of them to the sword, dismantled the city, and crucified 600 of the principal authors of the revolt.

This, however, was far from quieting the commotions in different parts of the empire. The inhabitants of Damascus soon followed the example of those of Hems, and deposed the caliph's governor; but Merwan, immediately after the extinction of the former rebellion, marched to Damascus with great celerity, entered the city by force, and brought to condign punishment the authors of the revolt. Peace, however, was no sooner established at Damascus, than Soliman Ebn Hesham set up for himself at Basra, where he was proclaimed caliph by the inhabitants. Here he assembled an army of 10,000 men, with whom he marched to Kinniffin, where he was joined by vast numbers of Syrians who flocked to him from all parts. Merwan, receiving advice of Soliman's rapid progress, marched against him with all the forces he could assemble, and entirely defeated him. In this engagement Soliman lost 30,000 men; so that he was obliged to fly to Hems, where 900 men took an oath to stand by him to the last. Having ventured, however, to attack the caliph's forces a second time, he was defeated, and again forced to fly to Hems. But, being closely pursued by Merwan, he constituted his brother Said governor of the city, leaving with him the shattered remains of his troops, and himself fled to Tadmor. Soon after his departure Merwan appeared before the town, which he besieged for seven months; during which time he bat-

tered it incessantly with 80 catapults. The citizens, being reduced to the last extremity, surrendered, and delivered Said into the caliph's hands. In consideration of this submission, Merwan pardoned the rebels, and took them all under his protection. About the same time, another pretender to the caliphate appeared at Cufa; but Merwan took his measures so well, that he extinguished this rebellion before it could come to any height.

Notwithstanding the success, however, that had hitherto attended Merwan, a strong party was formed against him in Khorasan by the house of Al Abbas. The first of that house that made any considerable figure was named *Mahomet*, who flourished in the reign of Omar Ebn Abdalaziz. He was appointed chief of the house of Al Abbas about the hundredth year of the Hegira; and is said to have prophesied, that after his death, one of his sons, named *Ibrahim*, should preside over them till he was killed, and that his other son Abdallah, surnamed *Abul Abbas Al Saffah*, should be caliph, and exterminate the house of Ommiyah. Upon this Al Saffah was introduced as the future sovereign, and those present kissed his hands and feet.

After the decease of Mahomet, his son Ibrahim nominated as his representative in Khorasan one Abu Moslem, a youth of 19 years of age; who beginning to raise forces in that province, Merwan despatched against him a body of horse under the command of Nasr Ebn Sayer; but that general was entirely defeated by Abu Moslem, and the greatest part of his men killed. The next year (the 128th of the Hegira) Merwan made vast preparations to oppose Abu Moslem, who after the late victory began to grow formidable to several parts of the empire. According to some authors, Merwan gained two victories over some of Ibrahim's generals; but the year following, Abu Moslem brought such a formidable army into the field, that the caliph's troops could not make head against them; his officers in Khorasan therefore were obliged either to take an oath of allegiance to Ibrahim, or to quit the province within a limited time.

In the 130th year of the Hegira, the caliph's general Nasr having drawn together another army, was again defeated by Khataba another of Ibrahim's generals, and forced to fly to Raya, a town of Dylam, according to some, or of Khorasan, according to others. The next year Ibrahim having foolishly taken it into his head to go on a pilgrimage to Mecca, attended by a numerous retinue splendidly accoutred, was seized and put to death by Merwan; and the year following Abu Abbas was proclaimed caliph at Cufa. As soon as the ceremony was ended, he sent his uncle Abdallah with a powerful army to attack Merwan's forces that were encamped near Tubar at a small distance from Mosul, where that caliph was then waiting for an account of the success of his troops under Yezid governor of Irak, against Khataba one of Al Saffah's generals. Khataba receiving advice of Yezid's approach, immediately advanced against him, and entirely defeated him; but in crossing the Euphrates, the waters of which were greatly swelled, he was carried away by the current and drowned. The pursuit, however, was continued by his son Hamid, who dispersed the fugitives in such a manner that they could never afterwards be rallied. At the news of this disaster, Merwan was

Arabia.

176

A party  
formed a-  
gainst him  
in Khoras-  
an.

177

Merwan's  
forces de-  
feated.

178

Ibrahim put  
to death.



Arabia.  
179  
Merwan  
himself de-  
feated,

180  
and killed.

181  
Reign of Al  
Manfur.

182  
He mur-  
ders Abu  
Moslem.

183  
Abdalah-  
man pro-  
claimed  
caliph in  
Spain.

184  
Attempt to  
assassinate  
the caliph.

at first greatly dispirited; but soon recovering himself, he advanced to meet Abdallah. In the beginning of the battle, the caliph happened to dismount; and his troops perceiving their sovereign's horse without his rider, concluded that he was killed, and therefore immediately fled; nor was it in the power of the caliph himself to rally them again, so that he was forced to fly to Damascus: but the inhabitants of that city, seeing his condition desperate, shut their gates against him. Upon this he fled to Egypt, where he maintained himself for some time; but was at last attacked and killed by Saleh, Abdallah's brother, in a town of Thebais, called *Busr Kurides*. The citizens of Damascus, though they had shamefully deserted Merwan, refused to open their gates to the victors; upon which Saleh entered the city by force, and gave it up to be plundered for three days by his soldiers.

By the total defeat and death of Merwan, Al Saffah remained sole master of the Moslem throne; but we hear of no very remarkable events that happened during his reign: only that he massacred great numbers of the partisans of the house of Ommiyah; and that Constantine Copronymus, taking advantage of the intestine divisions among the Moslems, ravaged Syria. The caliph died of the small pox in the 136th year of the Hegira, in the 33d year of his age; and was succeeded by his brother Al Manfur. In the beginning of Al Manfur's reign, hostilities continued against the house of Ommiyah, who still made resistance, but were always defeated. Abdallah, however, the caliph's uncle, caused himself to be proclaimed caliph at Damascus; and having assembled a powerful army in Arabia, Syria, and Mesopotamia, advanced with great expedition to the banks of the Masius near Nisibis, where he encamped. Al Manfur, being informed of this rebellion, despatched Abu Moslem against Abdallah. This general, having harassed him for five months together, at last brought him to a general action; and having entirely defeated him, forced him to fly to Basra. Notwithstanding all his services, however, Abu Moslem was soon after ungratefully and barbarously murdered by Al Manfur, on some ridiculous pretences of being deficient in respect towards him.

After the death of Abu Moslem, one Sinan a Magian, or adorer of fire, having made himself master of that general's treasures, revolted against the caliph; but he was soon defeated by Jamhur Ebn Morad, who had been sent against him with a powerful army. In this expedition Jamhur having acquired immense riches, the covetous disposition of the caliph prompted him to send a person express to the army to seize upon all the wealth. This so provoked Jamhur, that he immediately turned his arms against his master; but was soon defeated, and entirely reduced. The following year (the 139th of the Hegira, one Abdalrahman, of the house of Ommiyah, after the entire ruin of that family in Asia, arrived in Spain, where he was acknowledged caliph; nor did he or his descendants ever afterwards own subjection to the Arabian caliphs.

The 140th year of the Hegira is remarkable for an attempt to assassinate the caliph. This attempt was made by the Rawandians; an impious sect, who held the doctrine of metempsychosis or transmigration.— They first offered Al Manfur divine honours, by going in procession round his palace, as the Moslems were

went to do round the Caaba; but the caliph, highly incensed at this impiety, ordered 100 of the principal of them to be imprisoned. These, however, were soon released by their companions; who then went in a body to the palace with an intention to murder their sovereign: but he being a person of uncommon bravery, though he was surprised with very few attendants, mounted a mule, and advanced towards the mutineers, with an intention to sell his life as dear as possible. In the mean time, Maan Ebn Zaidat, one of the chiefs of the Ommiyah faction, who had concealed himself in order to avoid the caliph's resentment, sallied out of his retreat, and putting himself at the head of Al Manfur's attendants, charged the rebels with such fury, that he entirely defeated them. This generosity of Maan was so remarkable, that it afterwards passed into a proverb. On this occasion 6000 of the Rawandians were killed on the spot, and the caliph delivered from instant death: he was, however, so much disgusted with the Arabs on account of this attempt, that he resolved to remove the capital of his empire out of their peninsula; and accordingly founded a new city on the banks of the Tigris, which from that time to this has been known by the name of *Bagdad*. The foundations of it were laid in the 145th year of the Hegira, and finished four years after.

On the removal of the seat of government to Bagdad, the peninsula of the Arabs seems all at once to have lost its consequence, and in a short time the inhabitants seem even to have detached themselves from the jurisdiction of the caliphs: for in the 156th year of the Hegira, while Al Manfur was yet living, they made irruptions into Syria and Mesopotamia, as if they had designed to conquer these countries over again for themselves; and though the Arabs, properly so called, continued nominally subject to the caliphs of Bagdad till the abolition of the caliphate by Hulaku the Tartar, yet they did not become subject to him when he became master of that city. There is even the strongest reason to believe that the Arabs (i. e. the inhabitants of the peninsula properly called *Arabia*) have remained independent, not only of Hulaku, but of every other conqueror that the world hath yet produced.

The perpetual independence of the Arabs, indeed, has been the theme of praise among strangers and natives. The kingdom of Yemen, it is true, has been successively subdued by the Abyssinians, the Persians, the sultans of Egypt, and the Turks; the holy cities of Mecca and Medina have repeatedly bowed under a Scythian tyrant; and the Roman province of Arabia embraced the peculiar wilderness in which Ismael and his sons must have pitched their tents in the face of their brethren. Yet these exceptions are temporary or local; the body of the nation has escaped the yoke of the most powerful monarchies: the arms of Sesostris and Cyrus, of Pompey and Trajan, could never achieve the conquest of Arabia; the present sovereign of the Turks may exercise a shadow of jurisdiction, but his pride is reduced to solicit the friendship of a people whom it is dangerous to provoke and fruitless to attack. The obvious causes of their freedom are inscribed on the character and country of the Arabs. Many ages before Mahomet, their intrepid valour had been severely felt by their neighbours in offensive and defensive war. The patient and active virtues of a soldier

Arabia

185  
He removes  
the seat of  
empire to  
Bagdad.

Gibbon's  
Hist. vol. v.  
p. 178.  
186  
National  
independ-  
ence of the  
Arabs.



Arabia. dier are insensibly nursed in the habits and discipline of a pastoral life. The care of the sheep and camels is abandoned to the women of the tribe; but the martial youth, under the banner of the emir, is ever on horseback, and in the field, to practise the exercise of the bow, the javelin, and the scimitar. The long memory of their independence is the firmest pledge of its perpetuity; and succeeding generations are animated to prove their descent and to maintain their inheritance. Their domestic feuds are suspended on the approach of a common enemy; and in their last hostilities against the Turks, the caravan of Mecca was attacked and pillaged by fourscore thousand of the confederates. When they advance to battle, the hope of victory is in the front; and in the rear, the assurance of a retreat. Their horses and camels, who in eight or ten days can perform a march of four or five hundred miles, disappear before the conqueror; the secret waters of the desert elude his search; and his victorious troops are consumed with thirst, hunger, and fatigue, in the pursuit of an invisible foe, who scorns his efforts, and safely reposes in the heart of the burning solitude. The arms and deserts of the Bedowens are not only the safeguards of their own freedom, but the barriers also of the Happy Arabia, whose inhabitants, remote from war, are enervated by the luxury of the soil and climate. The legions of Augustus melted away in disease and lassitude; and it is only by a naval power that the reduction of Yemen has been successfully attempted. When Mahomet erected his holy standard, that kingdom was a province of the Persian empire; yet seven princes of the Homerites still reigned in the mountains; and the vicegerent of Chosroes was tempted to forget his distant country and his unfortunate master. The historians of the age of Justinian represent the state of the independent Arabs, who were divided by interest or affection in the long quarrel of the East: the tribe of Ghassan was allowed to encamp on the Syrian territory; the princes of Hira were permitted to form a city about 40 miles to the southward of the ruins of Babylon. Their service in the field was speedy and vigorous; but their friendship was venal, their faith inconstant, their enmity capricious: it was an easier task to excite than to disarm these roving barbarians: and, in the familiar intercourse of war, they learned to see, and to despise, the splendid weakness both of Rome and of Persia. From Mecca to the Euphrates, the Arabian tribes were confounded by the Greeks and Latins, under the general appellation of Saracens; a name which every Christian mouth has been taught to pronounce with terror and abhorrence.

187  
Their domestic freedom and character.

“The slaves of domestic tyranny may vainly exult in their national independence; but the Arab is personally free; and he enjoys, in some degree, the benefits of society, without forfeiting the prerogatives of nature. In every tribe, superstition, or gratitude, or fortune, has exalted a particular family above the heads of their equals. The dignities of sheich and emir invariably descend in this chosen race; but the order of succession is loose and precarious; and the most worthy or aged of the noble kinmen are preferred to the simple, though important, office of composing disputes by their advice, and guiding valour by their example. The momentary junction of several tribes produces an

Arabia. army: their more lasting union constitutes a nation; and the supreme chief, the emir of emirs, whose banner is displayed at their head, may deserve, in the eyes of strangers, the honours of the kingly name. If the Arabian princes abuse their power, they are quickly punished by the desertion of their subjects, who had been accustomed to a mild and parental jurisdiction. Their spirit is free, their steps are unconfined, the desert is open, and the tribes and families are held together by a mutual and voluntary compact. The softer natives of Yemen supported the pomp and majesty of a monarch; but if he could not leave his palace without endangering his life, the active powers of government must have been devolved on his nobles and magistrates. The cities of Mecca and Medina present, in the heart of Asia, the form or rather the substance of a commonwealth. The grandfather of Mahomet, and his lineal ancestors, appear in foreign and domestic transactions as the princes of their country; but they reigned like Pericles at Athens, or the Medici at Florence, by the opinion of their wisdom and integrity: their influence was divided with their patrimony; and the sceptre was transferred from the uncles of the prophet to a younger branch of the tribe of Koreish. On solemn occasions they convened the assembly of the people; and, since mankind must be either compelled or persuaded to obey, the use and reputation of oratory among the ancient Arabs is the clearest evidence of public freedom. But their simple freedom was of a very different cast from the nice and artificial machinery of the Greek and Roman republics, in which each member possessed an undivided share of the civil and political rights of the community. In the more simple state of the Arabs, the nation is free, because each of her sons disdains a base submission to the will of a master. His breast is fortified with the austere virtues of courage, patience, and sobriety; the love of independence prompts him to exercise the habits of self-command; and the fear of dishonour guards him from the meaner apprehension of pain, of danger, and of death. The gravity and firmness of the mind is conspicuous in its outward demeanour: his speech is slow, weighty, and concise; he is seldom provoked to laughter; his only gesture is that of stroking his beard, the venerable symbol of manhood; and the sense of his own importance teaches him to accost his equals without levity, and his superiors without awe. The liberty of the Saracens survived their conquests: the first caliphs indulged the bold and familiar language of their subjects: they ascended the pulpit to persuade and edify the congregation; nor was it before the seat of empire was removed to the Tigris, that the Abbassides adopted the proud and pompous ceremonial of the Persian and Byzantine courts.

188  
Civil wars and private revenge.  
“In the study of nations and men, we may observe the causes that render them hostile or friendly to each other, that tend to narrow or enlarge, to mollify or exasperate, the social character. The separation of the Arabs from the rest of mankind has accustomed them to confound the ideas of stranger and enemy; and the poverty of the land has introduced a maxim of jurisprudence, which they believe and practise to the present hour. They pretend, that in the division of the earth the rich and fertile climates were assigned to the other branches of the human family; and that



Arabia.

the posterity of the outlaw Ismael might recover, by fraud or force, the portion of inheritance of which he had been unjustly deprived. According to the remark of Pliny, the Arabians tribes are equally addicted to theft and merchandise: the caravans that traverse the desert are ransomed or pillaged; and their neighbours, since the remote times of Job and Sefostris, have been the victims of their rapacious spirit. If a Bedoween discovers from afar a solitary traveller, he rides furiously against him, crying, with a loud voice, "Undress thyself; thy aunt, (*my wife*) is without a garment." A ready submission entitles him to mercy; resistance will provoke the aggressor, and his own blood must expiate the blood which he presumes to shed in legitimate defence. A single robber, or a few associates, are branded with their genuine name; but the exploits of a numerous band assume the character of lawful and honourable war. The temper of a people, thus armed against mankind, was doubly inflamed by the domestic license of rapine, murder, and revenge. In the constitution of Europe, the right of peace and war is now confined to a small, and the actual exercise to a much smaller, list of respectable potentates; but each Arab, with impunity and renown, might point his javelin against the life of his countryman. The union of the nation consisted only in a vague resemblance of language and manners; and in each community the jurisdiction of the magistrate was mute and impotent. Of the time of ignorance which preceded Mahomet, 1700 battles are recorded by tradition: hostility was embittered with the rancour of civil faction; and the recital, in prose or verse, of an obsolete feud was sufficient to rekindle the same passions among the descendants of the hostile tribes. In private life, every man, at least every family, was the judge and avenger of its own cause. The nice sensibility of honour, which weighs the insult rather than the injury, sheds its deadly venom on the quarrels of the Arabs: the honour of their women, and of their *beards*, is most easily wounded; an indecent action, a contemptuous word, can be expiated only by the blood of the offender; and such is their patient inveteracy, that they expect whole months and years the opportunity of revenge. A fine or compensation for murder is familiar to the barbarians of every age: but in Arabia the kinsmen of the dead are at liberty to accept the atonement, or to exercise with their own hands the law of retaliation. The refined malice of the Arabs refuses even the head of the murderer, substitutes an innocent to the guilty person, and transfers the penalty to the best and most considerable of the race by whom they have been injured. If he falls by their hands, they are exposed in their turn to the danger of reprisals; the interest and principal of the bloody debt are accumulated; the individuals of either family lead a life of malice and suspicion, and 50 years may sometimes elapse before the account of vengeance be finally settled. This sanguinary spirit, ignorant of pity or forgiveness, has been moderated, however, by the maxims of honour, which require in every private encounter some decent equality of age and strength, of numbers and weapons. An annual festival of two, perhaps of four months, was observed by the Arabs before the time of Mahomet; during which their swords were religiously sheathed both in foreign and domestic hostility: and this partial truce

189  
Annual  
truce.

is more strongly expressive of the habits of anarchy and warfare. Arabia.

"But the spirit of rapine and revenge was attempered by the milder influence of trade and literature. The solitary peninsula is encompassed by the most civilized nations of the ancient world; the merchant is the friend of mankind; and the annual caravans imported the first seeds of knowledge and politeness into the cities, and even the camps of the desert. The arts of grammar, of metre, and of rhetoric, were unknown to the freeborn eloquence of the Arabians; but their penetration was sharp, their fancy luxuriant, their wit strong and sententious, and their more elaborate compositions were addressed with energy and effect to the minds of their hearers. The genius and merit of a rising poet was celebrated by the applause of his own and the kindred tribes. A solemn banquet was prepared, and a chorus of women, striking their cymbals, and displaying the pomp of their nuptials, sung in the presence of their sons and husbands the felicity of their native tribe; that a champion had now appeared to vindicate their rights; that a herald had raised his voice to immortalize their renown. The distant or hostile tribes resorted to an annual fair which was abolished by the fanaticism of the first Moslems; a national assembly that must have contributed to refine and harmonize the barbarians. Thirty days were employed in the exchange, not only of corn and wine, but of eloquence and poetry. The prize was disputed by the generous emulation of the bards; the victorious performance was deposited in the archives of princes and emirs; and we may read in our own language the seven original poems which were inscribed in letters of gold and suspended in the temple of Mecca. The Arabian poets were the historians and moralists of the age; and if they sympathized with the prejudices, they inspired and crowned the virtues of their countrymen. The indissoluble union of generosity and valour was the darling theme of their song; and when they pointed their keenest satire against a despicable race, they affirmed, in the bitterness of reproach, that the men knew not how to give, nor the women to deny. The same hospitality which was practised by Abraham, and celebrated by Homer, is still renewed in the camps of the Arabs. The ferocious Bedoweens, the terror of the desert, embrace, without inquiry or hesitation, the stranger who dares to confide in their honour and to enter their tent. His treatment is kind and respectful: he shares the wealth or the poverty of his host; and, after a needful repose, he is dismissed on his way, with thanks, with blessings, and perhaps with gifts.

"The religion of the Arabs, as well as of the Indians, consisted in the worship of the sun, the moon, and the fixed stars; a primitive and specious mode of superstition. The bright luminaries of the sky display the visible image of a Deity: their number and distance convey to a philosophic, or even a vulgar eye, the idea of boundless space: the character of eternity is marked on these solid globes, that seem incapable of corruption or decay: the regularity of their motions may be ascribed to a principle of reason or instinct; and their real or imaginary influence encourages the vain belief that the earth and its inhabitants are the object of their peculiar care. The science of astronomy was cultivated

190  
Their so-  
cial quali-  
fications  
and virtues.

191  
Love of  
poetry.

192  
Ancient  
idolatry.



Arabia. cultivated at Babylon; but the school of the Arabs was a clear firmament and a naked plain. In their nocturnal marches, they steered by the guidance of the stars: their names, and order, and daily station, were familiar to the curiosity and devotion of the Bedouen; and he was taught by experience to divide in 28 parts the zodiac of the moon, and to bless the constellations who refreshed, with salutary rains, the thirst of the desert. The reign of the heavenly orbs could not be extended beyond the visible sphere; and some metaphysical powers were necessary to sustain the transmigration of souls and the resurrection of bodies; a camel was left to perish on the grave, that he might serve his master in another life; and the invocation of departed spirits implies that they were still endowed with consciousness and power. Each tribe, each family, each independent warrior, created and changed the rites and the object of his fantastic worship; but the nation, in every age, has bowed to the religion as well as to the language of Mecca. The genuine antiquity of the Caaba extends beyond the Christian era. In describing the coast of the Red sea, the Greek historian Diodorus has remarked between the Thaumaudites and the Sabæans, a famous temple, whose superior sanctity was revered by *all* the Arabians: the linen or silken veil, which is annually renewed by the Turkish emperor, was first offered by a pious king of the Homerites, who reigned 700 years before the time of Mahomet. A tent or a cavern might suffice for the worship of the savages, but an edifice of stone and clay has been erected in its place; and the art and power of the monarchs of the east have been confined to the simplicity of the original model. A spacious portico encloses the quadrangle of the Caaba; a square chapel, 24 cubits long, 23 broad, and 27 high; a door and a window admit the light; the double roof is supported by three pillars of wood; a spout (now of gold) discharges the rain water, and the well Zemzem is protected by a dome from accidental pollution. The tribe of Koreih, by fraud or force, had acquired the custody of the Caaba; the sacerdotal office devolved through four lineal descents to the grandfather of Mahomet; and the family of the Hashemites, from whence he sprung, was the most respectable and sacred in the eyes of their country. The precincts of Mecca enjoyed the rights of sanctuary; and, in the last month of each year, the city and the temple were crowded with a long train of pilgrims, who presented their vows and offerings in the house of God. The same rites which are now accomplished by the faithful Mussulmen were invented and practised by the superstition of the idolaters. At an awful distance they cast away their garments: seven times, with hasty steps, they encircled the Caaba, and kissed the black stone; seven times they visited and adored the adjacent mountains; seven times they threw stones into the valley of Mina; and the pilgrimage was achieved, as at the present hour, by a sacrifice of sheep and camels, and the burial of their hairs and nails in the consecrated ground. Each tribe either found or introduced into the Caaba their domestic worship; the temple was adorned or defiled with 360 idols of men, eagles, lions, and antelopes; and most conspicuous was the statue of Hebal, of red agate, holding in his hand seven arrows, without heads or feathers, the instruments and symbols of profane dis-

193  
The Caaba  
or temple  
of Mecca.

Arabia. vination. But this statue was a monument of Syrian arts; the devotion of the ruder ages was content with a pillar or a tablet; and the rocks of the desert were hewn into gods or altars, in imitation of the black stone of Mecca, which is deeply tainted with the reproach of an idolatrous origin. From Japan to Peru, the use of sacrifice has universally prevailed; and the votary has expressed his gratitude or fear by destroying or consuming, in honour of the gods, the dearest and most precious of their gifts. The life of a man is the most precious oblation to deprecate a public calamity; the altars of Phœnicia and Egypt, of Rome and Carthage, have been polluted with human gore, the cruel practice was long preserved among the Arabs; in the third century, a boy was annually sacrificed by the tribe of the Dumatians; and a royal captive was piously slaughtered by the prince of the Saracens, the ally and soldier of the emperor Justinian. The father of Mahomet himself was devoted by a rash vow, and hardly ransomed for the equivalent of 100 camels. The Arabs, like the Jews and Egyptians, abstained from the taste of swine's flesh; and they circumcised their children at the age of puberty: the same customs, without the censure or the precept of the Koran, have been silently transmitted to their posterity and proselytes; and it has been sagaciously conjectured, that the artful legislator indulged the stubborn prejudices of his countrymen.

“ Arabia was free: From the adjacent kingdoms, which were shaken by the storms of conquest and tyranny, the persecuted sects fled to the happy land where they might profess what they thought, and practise what they professed; and the religions of the Sabians and Magians, of the Jews and Christians, were disseminated from the Persian gulf to the Red sea. In a remote period of antiquity, Sabianism was diffused over Asia by the science of the Chaldeans and the arms of the Assyrians. From the observations of 2000 years, the priests and astronomers of Babylon deduced the eternal laws of nature and providence. They adored the seven gods or angels who directed the course of the seven planets, and shed their irresistible influence on the earth. The attributes of the seven planets, with the twelve signs of the zodiac, and the twenty-four constellations of the northern and southern hemisphere, were represented by images and talismans; the seven days of the week were dedicated to their respective deities; the Sabians prayed thrice each day; and the temple of the moon at Haran was the term of their pilgrimage. But the flexible genius of their faith was always ready either to teach or to learn. The altars of Babylon were overturned by the Magians; but the injuries of the Sabians were revenged by the sword of Alexander. Persia groaned about 500 years under a foreign yoke; and the purest disciples of Zoroaster escaped from the contagion of idolatry, and breathed with their adversaries the freedom of the desert. Seven hundred years before the death of Mahomet the Jews were settled in Arabia: and a far greater multitude was expelled from the holy land in the wars of Titus and Hadrian. The industrious exiles aspired to liberty and power: they erected synagogues in the cities and castles in the wilderness; and their Gentile converts were confounded with the children of Israel, whom they resembled in the outward mark of circumcision.

194  
Sacrifices  
and rites.

195  
Introduc-  
tion of the  
Sabians.

196  
The Magi-  
ans.

197  
The Jews.



Arabia.  
198  
The Christians.

cision. The Christian missionaries were still more active and successful: the Catholics asserted their universal reign; the sects whom they oppressed successively retired beyond the limits of the Roman empire; the Marcionites and Manichæans dispersed their *fantastic* opinions and apocryphal gospels; the churches of Yemen, and the princes of Hira and Ghassan, were instructed in a purer creed by the Jacobite and Nestorian bishops." Such was the state of religion in Arabia previous to the appearance of Mahomet. See N<sup>o</sup> 22. *supra*.

As the Arabs are one of the most ancient nations in the world, having inhabited the country they at present possess almost from the deluge, without intermixing with other nations, or being subjugated by any foreign power, their language must have been formed soon after, if not at, the confusion of Babel. The two principal dialects of it were, that spoken by the Hamyarites and other genuine Arabs, and that of the Koreish, in which Mahomet wrote the Koran. The first is styled by the Oriental writers the *Arabic of Hamyar*, and the other *the pure or defecated*. As Yarab, grandfather of Hamyar, is supposed by the Oriental writers to have been the first whose tongue deviated from the Syriac to the Arabic, the Hamyaritic dialect according to them must have approached nearer to the purity of the Syriac; and consequently have been more remote from the true genius of the Arabic than that of any other tribe. The dialect of the Koreish, termed by the Koran *the perspicuous and clear Arabic*, is referred to Ishmael as its author; who, say the above-mentioned writers, first spoke it; and, as Dr Pococke believes, after he had contracted an alliance with the family of Jorham by marriage, formed it of their language and the original Hebrew. As, therefore, the Hamyaritic dialect partook principally of the Syriac, so that of the Koreish was supposed to consist chiefly of the Hebrew. But, according to Jallalo'ddin, the politeness and elegance of the dialect of the Koreish ought rather to be attributed to their having, from the remotest antiquity, the custody of the Caaba, and dwelling in Mecca the centre of Arabia. The Arabs are full of the commendations of their language, which is very harmonious, expressive, and, as they say, so immensely copious, that no man uninspired can be a perfect master of it in its utmost extent. How much, in this last article, it is superior to the Greek and Latin tongues, in some measure appears from hence, that sometimes a bare enumeration of the Arabic names of one particular thing, and an explication of them, will make a considerable volume. Notwithstanding this, the Arabs believe the greatest part of their language to be lost; which will not seem improbable, when we consider how late the art of writing became generally practised among them. For though it was known to Job their countryman, to the Edomites, as well as the other Arabian nations bordering upon Egypt and Phœnicia, and to the Hamyarites many centuries before Mahomet, as appears from some ancient monuments said to be remaining in their character: yet the other Arabs, and those of Mecca in particular, unless such of them as were either Jews or Christians, were to the time of Moramer perfectly ignorant of it. It was the ancient Arabic language preceding the reign of Justinian, which so nearly resembled the Ethiopic; for since that time,

and especially since the age of Mahomet, all the Arabic dialects have been not a little corrupted. This is now the learned language of the Mahometans, who study it as the European Christians do the Hebrew, Greek, and Latin.

The character used by them, the most ancient of any peculiar to the Arabs, wherein the letters were not distinctly separate, went by the appellation of *Al Mesnad*, from the mutual dependency of its letters or parts upon one another. This was neither publicly taught, nor suffered to be used, without permission first obtained. Could we depend upon what Al Firauzabadius relates from Ebn Hassem, this character must have been of a very high antiquity; since an inscription in it, according to the last author, was found in Yaman as old as the time of Joseph. Be that as it will, Moramer Ebn Morra of Anbar, a city of Irak, who lived not many years before Mahomet; was the inventor of the present Arabic character, which Bashar the Kendian, who married the sister of Abu Sofian, is said to have learned from the house of Anbar, and to have introduced at Mecca but a little time before the institution of Mahometism. Moramer's alphabet the Oriental authors agree to have been very different from the ancient one of the Hamyarites, since they distinguish the Hamyaritic and Arabic pens. In Mahomet's time, the Morameric alphabet had made so small a progress, that no one in Yaman could either write or read it; nay, Mahomet himself was incapable of doing either; for which reason he was called the *illiterate prophet*. The letters of this alphabet were very rude; being either the same with, or very much like, the Cufic; which character is still found in inscriptions and the titles of ancient books; nay, for many years, it was the only one used by the Arabs, the Koran itself being at first written therein. In order to perpetuate the memory of Moramer's invention, some authors call the Arabic letters *al Moramer*, i. e. *the progeny of Moramer*. The most remarkable specimens of the *Cufic* character (so denominated from Cufa, a city of Irak, where some of the first copies of the Koran were written) are the following: Part of that book in it on vellum, brought from Egypt by Mr Greaves; some other fragments of the same book in it published by Sir John Chardin; certain passages of a MS. in the Bodleian library; the legends on several Saracenic coins dug up not many years ago on the coast of the Baltic, not far from Dantzic; and, according to Mr Professor Hunt, those noble remains of it that are, or were lately, to be seen in Mr Joseph Ames's valuable collection of antique curiosities. As to the true origin of the ancient and modern Arabic alphabets, we must own ourselves pretty much in the dark. See ALPHABET.

The Arabian learning may be divided into two periods, viz. *Ante-Mahometan* and *Mahometan*.

The Arab learning, in this first period, consisted, according to Abulpharagius, in the knowledge of their language, the propriety of discourse, the composition of verse, and the science of the stars: but their chief attention seems to have been directed to oratory and poetry.

The same period is more distinguished, at least from the time of Al-Mamon, the seventh caliph of the family of the Abassides, who flourished about the year 820, and has the honour of being the founder of the

Arabia.

199  
Letters.

200  
Learning,  
&c.



Arabia. the modern Arabian learning. He sent for all the best books out of Chaldea, Greece, Egypt, and Persia, relating to physic, astronomy, cosmography, music, chronology, &c. and pensioned a number of learned men, skilled in the several languages and sciences, to translate them into Arabic. By this means, divers of the Greek authors, lost in their own country and language, have been preserved in Arabic. From that time Arabia became the chief seat of learning; and we find mention by Abulpharagius, Poccoke, D'Herbelot, and Hottinger, of learned men, and books without number.

The revival of learning in the tenth century, by Gerbert, known after his elevation to the pontificate by the title of Silvester II. and afterwards among the Europeans in general, may be ascribed to the instructions and writings of the Arabian doctors and philosophers, and to the schools which they founded in several parts of Spain and Italy. And in the 12th century, the inquisitive of different countries frequented the schools of the Saracens in Spain, and disseminated the knowledge which they obtained there after their return. At this time, many of the learned productions of the Arabians were translated into Latin, which facilitated the general progress of science.

The philosophy of the Arabians, before Mahomet, was Sabian, and included the system and ceremonies of that sect of idolaters. This it was that Mahomet set himself to decry; and he is even said by some to have carried his opposition so far, as to prohibit, if not punish, all study of philosophy. But his followers, by degrees, got over this restraint: the love of learning increased; till, under the memorable caliphate of Al Mamon, Aristotle's philosophy was introduced and established among them; and from them propagated, with their conquests, through Egypt, Africa, Spain, and other parts. As they chose Aristotle for their master, they chiefly applied themselves to that part of philosophy called *logic*, and thus became proficient in the knowledge of words rather than things. Whence they have been sometimes denominated *Masters of the wisdom of words*; sometimes the *Talking sect*. Their philosophy was involved in quaint arbitrary terms and notions, and their demonstrations drawn from thence as from certain principles, &c. *Walch Hist. Log. Lib. II. sec. 2. § 1.*

Their physic succeeded the Grecian; and their physicians handed down the art to us, having made considerable improvements, chiefly in the pharmaceutical and chemical parts.

It is certain we owe to them most of our spices and aromatics, as nutmegs, cloves, mace, and other matters of the produce of India. We may add, that most of the gentler purgatives were unknown to the Greeks, and first introduced by the Arabs, as manna, fenna, rhubarb, tamarinds, cassia, &c. They likewise brought sugar into use in physic, where, before, only honey was used. They also found the art of preparing waters and oils, of divers simples, by distillation and sublimation. The first notice of the smallpox and the measles is likewise owing to them. Lastly, The restoration of physic in Europe took its rise from their writings. M. le Clerc has given a sketch, and Dr Freind an ample history, of the Arabian physic. We have also a *Notitia* of all the Arabian physicians by Fabricius.

Their poetry may be divided into two ages. The ancient, according to Voissius, was no other than rhyming; was a stranger to all measure and rule; the verses loose and irregular, confined to no feet, number of syllables, or any thing else, so that they rhymed at the end: oftentimes all the verses in the poem ended with the same rhyme. It is in such verse that the Alcoran is said to be written.

The modern Arabian poetry takes its date from the caliphate of Al Raschid, who lived toward the close of the eighth century. Under him poetry became an art, and laws of prosody were laid down. Their comparisons, in which they abound, are taken, with little choice, from tents, camels, hunting, and the ancient manners of the Arabs.

That some of the Arabs had a good degree of knowledge in several mechanical arts, appears from Strabo, who informs us, that the people of Tamna and the adjacent provinces had magnificent temples, and elegant houses, built in the Egyptian taste. The same author likewise relates, that in Arabia Felix, besides the husbandmen, there were many artificers; and, amongst others, those who made palm wine, which, he intimates, was much used by the Arabs. As for the exercise of arms and horsemanship, they looked upon this as one of their principal accomplishments, being obliged to practise and encourage it by reason of the independency of their tribes, whose frequent jarring made wars almost continual amongst them, which for the most part ended in field battles. Hence it became an usual saying amongst them, that God had bestowed four peculiar things on the Arabs, viz. *turbans instead of diadems, tents instead of walls and houses, swords instead of intrenchments, and poems instead of written laws*. The principal arms used by the ancient Arabs were bows and arrows, darts or javelins, and broadswords or scimitars. The bows and arrows were the most ancient of these; being used by Ishmael himself, according to Scripture. It is probable also, that some of them were acquainted with every branch of the military art cultivated by their neighbours the Egyptians, Syrians, and Phœnicians.

Before the Portuguese interrupted the navigation of the Red sea, the Arabs were the factors of all the trade that passed through that channel. Aden, which is situated at the most southern extremity of Arabia upon the Indian ocean, was the mart in those parts. The situation of its harbour, which opened an easy communication with Egypt, Ethiopia, India, and Persia, had rendered it, for many ages, one of the most flourishing factories in Asia. Fifteen years after it had repulsed the great Albuquerque, who attempted to demolish it in 1513, it submitted to the Turks, who did not long remain masters of it. The king of Yemen, who possessed the only district in Arabia that merits the title of *Happy*, drove them from thence, and removed the trade to Mocha, a place in his dominions which till then was only a village.

This trade was at first inconsiderable; consisting principally in myrrh, incense, aloes, balm of Mecca, some aromatics, and medicinal drugs. These articles, the exportation of which is continually retarded by exorbitant imposts, and does not exceed at present 30,625*l.* were at that time more in repute than they have been since: but must have been always of little consequence.

Arabia.

201  
Mechanical  
arts.202  
Commerce.



Arabia. consequence. Soon after a great change ensued from the introduction of coffee.

Though this article is generally used in the Arabian entertainments, none but the rich citizens have the pleasure of tasting the berry itself. The generality are obliged to content themselves with the shell and the husk of this valuable production. These remains, so much despised, make a liquor of a pretty clear colour, which has a taste of coffee without its bitterness and strength. These articles may be had at a low price at Betelagui, which is the general market for them. Here likewise is sold all the coffee which comes out of the country by land. The rest is carried to Mocha, which is 35 leagues distant, or to the nearer ports of Lochia or Hodeida, from whence it is transported in small vessels to Jodda. The Egyptians fetch it from the last mentioned place, and all other nations from the former.

The quantity of coffee exported may be estimated at twelve millions five hundred and fifty thousand weight. The European companies take off a million and a half; the Persians three millions and a half; the fleet from Suez six millions and a half; Indostan, the Maldives, and the Arabian colonies on the coast of Africa, fifty thousand; and the caravans a million.

As the coffee which is bought up by the caravans and the Europeans is the best that can be procured, it costs about 8½d. a pound. The Persians, who content themselves with that of an inferior quality, pay no more than about 6½d. a pound. The Egyptians purchase it at the rate of about 8d; their cargoes being composed partly of good and partly of bad coffee. If we estimate coffee at about 7½d. a pound, which is the mean price, the profits accruing to Arabia from its annual exportation will amount to 384,343l. 15s. This money does not go into their coffers; but it enables them to purchase the commodities brought from the foreign markets to their ports of Jodda and Mocha.

Mocha receives from Abyssinia, sheep, elephants teeth, musk, and slaves. It is supplied from the eastern coast of Africa with gold, slaves, amber, and ivory; from the Persian gulf, with dates, tobacco, and corn; from Surat, with a vast quantity of coarse, and a few fine linens; from Bombay and Pondicherry, with iron, lead, and copper, which are carried thither from Europe; from Malabar, with rice, ginger, pepper, Indian saffron, with coire, cardamom, and also with planks; from the Maldives, with gum, benzoin, aloes wood, and pepper, which these islands take in exchange; from Coromandel, with 400 or 500 bales of cottons, chiefly blue. The greatest part of these commodities, which may fetch 262,500l. are consumed in the interior part of the country. The rest, particularly the cottons, are disposed of in Abyssinia, Socotora, and the eastern coast of Africa.

None of the branches of business which are managed at Mocha, as well as throughout all the country of Yaman, or even at Sanaa the capital, are in the hands of the natives. The extortions with which they are perpetually threatened by the government deter them from interfering in them. All the warehouses are occupied by the Banians of Surat or Guzerat, who make a point of returning to their own country as soon as they have made their fortunes. They then resign their settlements

to merchants of their own nation, who retire in their turn, and are succeeded by others.

The European companies, who enjoy the exclusive privilege of trading beyond the Cape of Good Hope, formerly maintained agents at Mocha. Notwithstanding it was stipulated by a solemn capitulation, that the imposts demanded should be rated at two and a quarter *per cent.* they were subject to frequent extortions: the governor of the place insisting on their making him presents which enabled him to purchase the favour of the courtiers, or even of the prince himself. However the profits they obtained by the sale of European goods, particularly cloths, made them submit to these repeated humiliations. When these several articles were furnished by Grand Cairo, it was then impossible to withstand the competition, and the fixed settlements were therefore given up.

The trade was carried on by ships that sailed from Europe with iron, lead, copper, and silver, sufficient to pay for the coffee they intended to buy. The supercargoes, who had the care of these transactions, settled the accounts every time they returned. These voyages, which at first were pretty numerous and advantageous, have been successively laid aside. The plantations of coffee, made by the European nations in their colonies, have equally lessened the consumption and the price of that which comes from Arabia. In process of time, these voyages did not yield a sufficient profit to answer the high charges of undertaking them on purpose. The companies of England and France then resolved, one of them to send ships from Bombay, and the other from Pondicherry, to Mocha, with the merchandize of Europe and India. They even frequently had recourse to a method that was less expensive. The English and French visit the Red sea every year. Though they dispose of their merchandize there to good advantage, they can never take in cargoes from thence for their return. They carry, for a moderate freight, the coffee belonging to the companies, who lade the vessels with it, which they despatch from Malabar and Coromandel to Europe. The Dutch company, who prohibit their servants from sitting out ships, and who send no vessels themselves to the gulf of Arabia, are deprived of the share they might take in this branch of commerce. They have also given up a much more lucrative branch, that of Jodda.

Jodda is a port situated near the middle of the gulf of Arabia, 20 leagues from Mecca. The government there is of a mixed kind: the grand signior and the xeriff of Mecca share the authority and the revenue of the customs between them. These imposts are levied upon the Europeans at the rate of 8 *per cent.* and upon other nations at 13. They are always paid in merchandize, which the managers oblige the merchants of the country to buy at a very dear rate. The Turks who have been driven from Aden, Mocha, and every part of Yaman, would long ago have been expelled from Jodda, if there had not been room to apprehend that they might revenge themselves in such a manner as to put an end to their pilgrimages and commerce.

The coins which are current at Mocha, the principal port of the Red sea, are dollars of all kinds; but they abate five *per cent.* on the pillar dollars, because they are reckoned not to be the purest silver, and the dollar



Gum Ara-  
bic  
||  
Aracan.

dollar weight with them is 17 drachms 14 grains. All their coins are taken by weight, and valued according to their pureness. The gold coins current here are ducats of Venice, Germany, Turkey, Egypt, &c. The comasses are a small coin, which are taken at such a price as the government sets on them; and they keep their accounts in an imaginary coin, called *cabeers*, of which 80 go to a dollar. For an account of the ancient coins called *dinars* and *dirbems*, see these two articles.

Gum ARABIC. See GUM.

ARABICI, a sect who sprung up in Arabia about the year 207, whose distinguishing tenet was, that the soul died with the body, and also rose again with it.

Eusebius, lib. vi. c. 38. relates, that a council was called to stop the progress of this rising sect; and that Origen assisted at it, and convinced them so thoroughly of their error that they abjured it.

ARABIS, BASTARD TOWER MUSTARD. See BOTANY Index.

ARABISM, ARABIMUS, an idiom or manner of speaking peculiar to the Arabs or the Arabic language.

ARABIST, a person curious of, and skilled in, the learning and languages of the Arabians: such were Erpenius and Golius. The surgeons of the 13th century are called *Arabists* by Severinus.

ARABLE LANDS, those which are fit for tillage, or which have been formerly tilled.

ARACAN, the capital of a small kingdom to the north-east of the bay of Bengal, situated in E. Long. 93. 0. N. Lat. 20. 30. It has the conveniency of a spacious river, and a harbour large enough to hold all the ships in Europe. It is said by Schouten to be as large as Amsterdam; but the houses are slight, being made with palm trees and bamboo canes, and covered with leaves of trees. They are seldom above six feet high, but have many windows or air holes. But the people of the highest rank are much better accommodated. They have no kitchens, chimneys, or cellars, which obliges the women to dress the victuals out of doors. Some of the streets are on the ridges of rocks, wherein are a great many shops. Their orchards and gardens contain all the fruits common to the Indies, and their trees are green all the year. Their common drink is toddy; which is the sap of the cocoa-tree, and when new, will intoxicate like wine, but soon grows sour. Elephants and buffaloes are very numerous here, and are made use of instead of horses. They have plenty of provisions, and but little trade: for when Mr Charnock was here in 1686, with six large ships, there was nothing to be had in the way of commerce; and yet the country produces lead, tin, stick lac, and elephants teeth. The Mogul's subjects come here to purchase these commodities; and sometimes meet with diamonds, rubies, and other precious stones. They were formerly governed by a king of their own, called the king of the *White Elephant*; but this country has been conquered by the king of Pegu. They pay little or no regard to the chastity of their women, and the common sailors take great liberties among them. Their religion is Paganism; and the idols, temples, and priests are very numerous. The dress of the better sort is very slight, for it consists chiefly of a piece of white cotton over their arms, breast, and belly, with an apron

before. The complexion of the women is tolerable; they wear thin flowered gauze over their breast and shoulders, and a piece of cotton, which they roll three or four times round their waist, and let it hang as low as their feet. They curl their hair, and put glass rings in their ears, and stretch them of a monstrous length. On their arms and legs they have hoops of copper, ivory, silver, &c. The country produces great quantities of rice, and the water is good. Their flocks of sheep and herds of cattle are also numerous near Aracan; but what they say of the towns and villages, with which the country is pretended to be overspread, may be doubted. Captain Hamilton affirms, that there are but few places inhabited, on account of the great number of wild elephants and buffaloes, which would destroy the fruits of the ground; and that the tigers would destroy the tame animals. There are some villages near the sea, inhabited by a few miserable fishermen, who can just keep themselves from starving, though they are out of the reach of oppression. The rich burn the dead bodies; but the poor, who are not able to buy wood, throw them into the river.

ARACHIS. See BOTANY Index.

ARACHNE, in *Fabulous History*, a young maid of Lydia, said to have been the inventress of spinning. She is fabled to have been so skilful in this art, as to challenge Minerva at it; who tore her work, and struck her, which disgrace driving her to despair, she hanged herself. Minerva from compassion brought her to life, and transformed her into a spider, which still employs itself in spinning.

ARACHNOIDES, in *Anatomy*, an appellation given to several membranes; as the tunic of the crystalline humour of the eye, the external lamina of the pia mater, and one of the coverings of the spinal marrow.

ARACK, ARRACK, or RACK, a spirituous liquor imported from the East Indies, used by way of dram and in punch.

The word *arack*, according to Mr Lockyer, is an Indian name for strong waters of all kinds: for they call our spirits and brandy *English arack*. But what we understand by the name *arack*, he affirms is really no other than a spirit procured by distillation from a vegetable juice called *toddy*, which flows by incision out of the cocoa nut tree, like the birch juice procured among us. The toddy is a pleasant drink by itself, when new, and purges those who are not used to it: and, when stale, it is heady, and makes good vinegar. The English at Madras use it as leaven to raise their bread with.

Others are of opinion, that the arack or arrack, is a vinous spirit obtained by distillation, in the East Indies, from rice or sugar, fermented with the juice of cocoa nuts.

The Goa arack is said to be made from the toddy, the Batavia arack from rice and sugar; and there is likewise a kind of shrub from which arack is made.

Goa and Batavia are the chief places for arack. At Goa there are divers kinds; single, double, and treble distilled. The double distilled, which is that commonly sent abroad, is but a weak spirit in comparison with Batavia arack; yet, on account of its peculiar and agreeable flavour, is preferred to all the other aracks of India. This flavour is attributed to the earthen vessels

Arachis  
||  
Arack.



Arack. fels which they use at Goa to draw the spirit; whereas at Batavia they use copper stills.

The Parier arack made at Madras, and the Columbo and Quilone arack at other places, being fiery hot spirits, are little valued by the Europeans, and therefore rarely imported; though highly prized among the natives. In the best Goa arack, the spirits of the cocoa juice do not make above a sixth or eighth part.

The manner of making the Goa arack is this: The juice of the trees is not procured in the way of tapping, as we do; but the operator provides himself with a parcel of earthen pots, with bellies and necks like our ordinary bird bottles: he makes fast a number of these to his girdle, and any way else that he commodiously can about him. Thus equipped, he climbs up the trunk of a cocoa tree; and when he comes to the boughs, he takes out his knife, and cutting off one of the small knots or buttons, he applies the mouth of the bottle to the wound, fastening it to the bough with a bandage; in the same manner he cuts off other buttons, and fastens on his pots, till the whole number is used: this is done in the evening, and descending from the tree, he leaves them till the next morning; when he takes off the bottles, which are mostly filled, and empties the juice into the proper receptacle. This is repeated every night, till a sufficient quantity is produced; and the whole being then put together, is left to ferment, which it soon does. When the fermentation is over, and the liquor or wash is become a little tart, it is put into the still, and a fire being made, the still is suffered to work as long as that which comes over has any considerable taste of spirit.

The liquor thus procured is the low wine of arack; and this is so poor a liquor, that it will soon corrupt and spoil, if not distilled again, to separate some of its phlegm; they therefore immediately after pour back this low wine into the still, and rectify it to that very weak kind of proof spirit, in which state we find it. The arack we meet with, notwithstanding its being of a proof test, according to the way of judging by the crown of bubbles, holds but a sixth, and sometimes but an eighth part of alcohol, or pure spirit; whereas our other spirits, when they show that proof, are generally esteemed to hold one half pure spirit. *Shaw's Essay on Distilling.*

There is a paper of observations on arack, in the *Mélanges d'Histoire Natur.* tom. v. p. 302. By fermenting, distilling, and rectifying the juice of the American maple, which has much the same taste as that of the cocoa, the author says, he made arack not in the least inferior to any that comes from the East Indies; and he thinks the juice of the sycamore and of the birch trees would equally answer the end.

Besides the common sorts of Goa and Batavia arack, there are two others less generally known; these are the bitter arack and the black arack.

By stat. 11th Geo. I. c. 30. arack, on board a ship within the limits of any port of Great Britain, may be searched for and seized, together with the package; or if found unshipping or unshipped, before entry, may be seized by the officers of excise, in like manner as by the officers of the customs.—Upon an excise officer's suspicion of the concealment of arack, and oath made of the grounds of such suspicion before the commissioners or a justice of peace, they may empower him to enter such

suspected places, and seize the liquors, with the casks, &c. If the officers are obstructed, the penalty is 100l.

Arack is not to be sold but in warehouses, entered as directed in the 6th of Geo. I. c. 21. upon forfeiture, and the casks, &c. If permits are not returned which are granted for the removal of arack, or if the goods are not sent away within the time limited, the penalty is treble the value. If the permits are not returned, and the decrease is not found to be sufficient, the like quantity is forfeited. Permits are not to be taken out but by direction in writing of the proprietor of the stock, or his known servant, upon forfeiture of 50l. or three months imprisonment.

By stat. 9th Geo. II. c. 35. if arack is offered to sale without a permit, or by any hawk, pedlar, &c. with a permit, the person to whom it is offered may seize and carry it to the next warehouse belonging to the customs or excise, and bring the person offering the same before any justice of the peace, to be committed to prison, and prosecuted for the penalties incurred by such offence. The person seizing such goods may prosecute in his own name; and on recovery is entitled to one-third part of the gross produce of the sale; and the commissioners are, if desired, upon a certificate from the justice of the offender's being committed to prison, to advance to the seizer 15s. per gallon for the arack so seized.

Arack (except for the use of seamen, two gallons each) found in any ship or vessel arrived from foreign parts, at anchor, or hovering within the limits of any port, or within two leagues of the shore; and not proceeding on her voyage (unless in case of unavoidable necessity and distress of weather, notice whereof must be given to the collector or chief officer of the port upon the ship's arrival), is forfeited, with the boxes, casks, or other package, or the value thereof.

ARACK is also the name of a spirituous liquor made by the Tartars of Tungusia, of mares milk, left to sour, and afterwards distilled twice or thrice between two earthen pots closely stopped, whence the liquor runs through a small wooden pipe. It is more intoxicating than brandy.

ARAD, in *Ancient Geography*, a city lying to the south of Judah and the land of Canaan, in Arabia Petraea. The Israelites having advanced towards the land of Canaan (Numb. xxi. 1.), the king of Arad opposed their passage, defeated them, and took a great booty from them; but they destroyed his country as soon as they became masters of the land of Canaan (Numb. xxxiii.) Arad was rebuilt, and Eusebius places it in the neighbourhood of Kades, at the distance of 20 miles from Hebron. The Israelites, in their passage through the wilderness, having departed from Sepher, came to Arad, and from thence to Makelath.

ARADUS, in *Ancient Geography*, an island between the borders of Phœnicia and Seleucia, at the distance of 20 stadia from a dangerous coast: all of it a rock surrounded by the sea, in compass seven stadia; and forming a very powerful city and republic. It is now called *Ronad*; but not a single wall is remaining of all that multitude of houses which, according to Strabo, were built with more stories than even those of Rome. The liberty enjoyed by the inhabitants had rendered it very populous; and it subsisted by naval commerce,



**Ara Philænon, Aræometer.** commerce, manufactures, and arts. At present the island is deserted; nor has tradition even retained the memory of a spring of fresh water in its environs, which the people of Aradus discovered at the bottom of the sea, and from which they drew water in time of war by means of a leaden bell and a leathern pipe fitted to its bottom.

**ARÆ PHILÆNON, or PHILÆNORUM** (Strabo); to the south of the Syrtis Major; but in Peutinger more westerly, to the south almost of the Syrtis Minor. In Strabo's time, the altars were not extant, but a village of the same name stood on the spot. On a dispute about limits, between the Cyreneans and Carthaginians, it was agreed that two of each people should set out on the same day, and that where they should happen to meet, there the limits of both should be fixed. The Philæni, two brothers, Carthaginians, undertook it for Carthage: these, after having advanced a great many miles into the territory of the Cyreneans, were met by their antagonists; who, enraged at their being beforehand with them so far, gave them the option of either returning back, or of being buried alive on the spot. Like zealous patriots, they chose the latter; and there the Carthaginians raised two altars in honour of the Philæni. (Sallust, Valerius Maximus.)

**ARÆOMETER**, an instrument to measure the density or gravity of fluids.

The aræometer, or waterpoise, is usually made of glass; consisting of a round hollow ball, which terminates in a long slender neck hermetically sealed at top: there being first as much running mercury put into it as will serve to balance or keep it swimming in an erect position.

The stem is divided into degrees (as represented Plate XXXVI. fig. 23.); and by the depth of its descent into any liquor, the lightness of that liquor is concluded: for that fluid in which it sinks least must be heaviest: and that in which it sinks lowest lightest.

Mr Homberg has invented a new aræometer, described in Phil. Transact. N<sup>o</sup> 262. thus: *A* is a glass bottle or matras, with so slender a neck that a drop of water takes up in it above five or six lines, or half of an inch. Near that neck is a small capillary tube *D*, about six inches long, and parallel to the neck.— To fill the vessel, the liquor is poured in at the mouth *B* (which is widened to receive a tunnel), till it run out at *D*, that is, till it rise in the neck to the mark *C*, by which means you have always the same bulk or quantity of liquor; and consequently, by means of the balance, can easily tell, when different liquors fill it, which weighs most, or is most intensely heavy.

Some regard, however, is to be had in these trials to the season of the year, and degree of heat and cold in the weather; because some liquors rarefy with heat and condense with cold more than others, and accordingly take up more or less room.

By means of this instrument, the ingenious author has made a table to show the different weights of the same bulk of the most considerable chemical liquors both in summer and winter, as follows:

	Weighed in summer.		In Winter.	
The aræometer full of	oz.	dr. gr.	oz.	dr. gr.
Quicksilver,	11	00 06	11	00 32
Oil of tartar,	01	03 08	01	03 31

	Weighed in summer.		In winter.	
The aræometer full of	oz.	dr. gr.	oz.	dr. gr.
Spirit of urine,	01	00 32	01	00 43
Oil of vitriol,	01	03 58	01	04 03
Spirit of nitre,	01	01 40	01	01 70
Spirit of salt,	01	00 39	01	00 47
Aquafortis,	01	01 38	01	01 55
Vinegar,	00	07 55	00	07 60
Spirit of wine,	00	06 47	00	06 61
River water,	00	07 53	00	07 57
Distilled water,	00	07 50	00	07 54

The instrument itself weighed, when empty, one drachm twenty-eight grains. See HYDROMETER.

**ARÆOPAGUS.** See AREOPAGUS.

**ARÆOSTYLE**, in *Architecture*, a term used by Vitruvius, to signify the greatest interval which can be made between columns.

**ARÆOTICS**, in *Medicine*, remedies which rarefy the humours, and render them easy to be carried off by the pores of the skin.

**ARAF**, among the *Mahometans*. See ALARAF.

**ARAFAH**, the ninth day of the last month of the Arabic year, named *Dhoulbegiat*; on which the pilgrims of Mecca perform their devotions on a neighbouring mountain called *Arafat*. The Mahometans have a very great veneration for this mountain, because they believe that Adam and Eve, after they were banished out of Paradise, having been separated from each other during 120 years, met afterwards on this mountain.

**ARAFAT**, or **GIBEL EL ORPHAT**, *the mountain of knowledge*, a mountain in Arabia near Mecca. The Mahometans say this was the place where Adam first met with and knew his wife Eve after their expulsion from Paradise. This mountain not being large enough to contain all the devotees that come annually in pilgrimage to Mecca, stones are set up all round it to show how far it reaches. The pilgrims are clad in robes of humility and mortification, with their heads uncovered. They seem to be very much affected; for the tears flow down their cheeks, and they sob and sigh most bitterly, begging earnestly for remission of sins, and promising to lead a new life. They continue here about four or five hours, and at half an hour after sunset they all decamp to perform a religious duty called *Asham nomas*. After this, they all receive the honourable title of *badgees*, which is conferred upon them by the imam or priest. This being pronounced, the trumpet sounds, and they all return to Mecca.

**ARAGON.** See ARRAGON.

**ARAL**, a great lake in the kingdom of Khowarazm, lying a little to the eastward of the Caspian sea. Its length from north to south is said to be near 150 miles, and its breadth from east to west about 70. The shore on the west side is high and rocky, and destitute of good water: yet there are abundance of wild horses, asses, antelopes, and wolves; as also a fierce creature called a *jolbart*, which the Tartars say is of such a prodigious strength as to carry off a horse. It is surprising that this lake should be quite unknown to geographers till within these few years. Several great rivers, which were supposed to run into the Caspian sea, are now known to fall into this lake, particularly the Sihun or Sirr, and the Ghihun or Amo, so often mentioned



Arahum  
||  
Aranjuez.

mentioned by the Oriental historians. This lake, like the Caspian sea, has no visible outlet. Its water is also very salt; and for that reason is conveyed by the neighbouring inhabitants by small narrow canals into sandy pits, where the heat of the sun, by exhaling the water, leaves them a sufficient quantity of salt. The same kinds of fish are found in the Aral that are found in the Caspian sea. The former is also called the *Lake of Eagles*.

ARAHUM, or HARAUM, in ancient writers, denotes a place consecrated or set apart for holy purposes. Hence the phrase *in arabo jurare*, or *conjurare*, "to make oath in the church;" because, by the Ripuarian laws, all oaths were to be taken in the church on the relics of the saints.

ARALIA, the ANGELICA TREE. See BOTANY Index.

ARAM, or *Aramæa Regio*, in *Ancient Geography*, the Hebrew name of Syria, so called from Aram the son of Shem, (Moses, Josephus).

ARAM Beth-Rehob, in *Ancient Geography*, was that part of Syria lying to the north of Palestine; because Rehob was its boundary towards that quarter, (Moses); allotted to the tribe of Asher, (Judges); where it joins Sidon, (Joshua).

ARAM-Damascak, or Syria Damascena, in *Ancient Geography*, a principal part of Syria, and more powerful than the rest (2 Sam.), taking its name from Damascus, the principal city.

ARAM-Maacha, in *Ancient Geography*, a district of Syria, at the foot of Mount Hermon, (2 Samuel, 1 Chronicles); on the borders of the half tribe of Manasseh, on the other side the Jordan, called the coast of *Maachathi*, (Moses, Joshua).

ARAM-Nabaraim, in *Ancient Geography*, i. e. Aram or Syria of the Rivers, or Mesopotamia, situated between the Euphrates and Tigris; which is the reason of the name.

ARAM-Soba, or Zoba, in *Ancient Geography*, which David conquered, was a country near the Euphrates, where afterwards Palmyra stood: the Euphrates bounded it on the east, as the land of Canaan and Syria Damascena did on the west, (2 Samuel).

ARAMONT, a town of Languedoc in France, seated on the river Rhone. E. Long. 4. 52. N. Lat.

43. 54.  
ARANEA, the SPIDER. See ENTOMOLOGY Index.

ARANJUEZ, a town in the province of New Castile, where the king of Spain has a palace and gardens which are reckoned the most delightful in the world.

This place is 20 miles from Madrid, by a noble road, planted on each side with trees, lately made at the expence of 120,000l. sterling. It is delightfully situated at the conflux of the rivers Tagus and Jarama; which run through the gardens, and add new beauty to this charming spot, where art and nature seem to go hand and hand with the most pleasing and rural simplicity. On one side, fine avenues of stately oaks and lofty elms convey the truest ideas of magnificence, while they afford the most reviving shade; on the other, the sudden transitions to lawns and wilderness, the cascades of water breaking through the thickets, the tuneful songs of numberless birds sheltered in these

cool recesses, the occasional appearance and passage of the monarch attended by the grandees of his kingdom; all these objects united, and concentrated in one point, fill the imagination with pleasing ideas, and impress the mind of a traveller with a thousand agreeable sensations.

The general situation is in a very large plain surrounded with large hills, of a most disagreeable aspect indeed, but seldom appearing, being well hidden by the noble rows of trees that extend across the flat in every direction. The main body of the palace is an old building, to which have been lately added two new wings. The first part of the building was erected by Philip II. who purchased the estate, planted many of the avenues, and, in order to extend his chase, or to indulge his spleenetic disposition, had all the vines that grew on the hills rooted up. By that means he drove away the inhabitants, and rendered the environs of his villa a perfect desert.—The apartments are good; but contain nothing very particular to take off from the enjoyment of so many fine objects abroad. In one of the new wings is a playhouse, and in the other a chapel. Part of the ceiling of the former was painted by Mengs, who was also sent to Rome to paint a holy family for the principal altar in the chapel. There are seven fine pictures of Luca Jordano in the apartment called *El Gabinete Antiguo*, and six others in that *De los Mayordomos*. The portraits of the grand duke and duchess of Tuscany, by Mengs, are in a new apartment called the *king's dressing room*. In the chapel, over the great altar, there is a fine picture of the Annunciation, by Titian, presented by him to Charles V. and brought from the convent of Juste, after the death of that emperor. The porcelain cabinet, where there are several large pieces of the king's own manufacture, is also a subject of curiosity to a traveller.

As to the gardens, the whole of them may be thrown into three grand divisions, distinguished by the names of La Huerta Valenciana, Los Deleites, and El Cortijo. In the Huerta Valenciana, agriculture and gardening are carried on in the same manner as in that fruitful province, and they plough with horses. In the Cortijo they use oxen, as in Andalusia; and in other places they scratch up the ground with mules, as is still practised in some parts of Spain. Whichever way one looks round, a constant variety pleases the eye, and enraptures the mind. At one moment the sturdy buffalo moves before you, drawing his heavy burden; soon after, the slow camel, with his ponderous load; while the swift zebra with his striped garment frisks over the plains. If you approach the farm, every object of convenience is consulted, and in the dairy every degree of neatness. The Dutch cow enjoys a luxuriant pasture, the brood mares greatly enliven the landscape, and the stables are filled with the most excellent horses; and an immense nursery furnishes all manner of trees and plants. The fine avenue, which serves also for a public walk, called *Calle de Reyna*, has nothing equal to it at Versailles. It is three miles long, quite straight from the palace gate, crossing the Tagus twice before it loses itself in the thickets, where some noble spreading elms and weeping poplars hang beautifully over the deep still pool. Near this road is a flower garden for the spring, laid out with great taste by Mr Wall during his ministry. The gay variety of flowers

at



Aranjuez.  
Arar.

at this time of year is particularly pleasing to the eye; but its beauty soon fades on the approach of summer. As the weather grows hot, the company that choose to walk retire to a garden in an island of the Tagus, on the north side of the palace. This is a heavenly place, cut into various walks and circular lawns, which in their primitive state may have been very stiff and formal: but in the course of a century, Nature has obliterated the regular forms of art; the trees have swelled out beyond the line traced for them, and destroyed the enfilade by advancing into the walks or retreating from them. The sweet flowering shrubs, instead of being clipped and kept down, have been allowed to shoot up into trees, and hang over the statues and fountains they were originally meant to serve as humble fences to. The jets-d'eau dash up among the trees, and add fresh verdure to the leaves. The terraces and balustrades built along the river, are now overgrown with roses, and other luxuriant bushes, hanging down into the stream, which is darkened by the large trees growing on the opposite banks. Many of the statues, groupes, and fountains, are handsome, some masterly, the works of Algardi: all are placed in charming points of view, either in open circular spots, at a distance from the trees, or else in gloomy arbours, and retired angles of the wood. The banks of this wood, called the *Ila*, are also enlivened by elegant yachts for the amusement of the royal family.

The town or village formerly consisted of the palace, its offices, and a few miserable huts, where the ambassadors, and the attendants of the court, endeavoured to lodge themselves as well as they could, but always very uncomfortably; many of the habitations were vaults half under ground. What determined the king to build a new town, and to embellish the environs, was an accident that happened at the nuncio's; a coach broke through the ceiling of his dining-room, and fell in upon the table. The court then began to apply very considerable sums to the purpose of erecting proper dwellings for the great number of persons that flock to the place where the sovereign resides; near 10,000 are supposed to live here two or three months in spring; the king keeps 115 sets of mules, which require a legion of men to take care of them. Above a million sterling has been laid out at Aranjuez since the year 1763; and it must be acknowledged, that wonders have been performed: several fine streets drawn in straight lines with broad pavements, a double row of trees before the houses, and a very noble road in the middle; commodious hotels for the ministers and ambassadors; great squares, markets, churches, a theatre, and an amphitheatre for bull feasts, have been raised from the ground; besides the accession of two new wings to the palace. Neatness and convenience have been more studied and sought for than show in the architecture, but altogether the place has something truly magnificent in the coup d'œil.

ARAR, (Cæsar, Strabo); *Araris*, (Dio Cassius); *Saucona*, (Ammian): A river of Celtic Gaul, now the *Saone*; which rises out of Mount Vogesus on the confines of Lorraine, runs through the Franche Comté and Burgundy, and below Lyons falls into the Rhone. It is so incredibly slow, that the eye cannot distinguish which way it moves, (Cæsar); and therefore Pliny calls it the *Sluggish river*. Its course is from north to

south. It is famous for a bridge of Cæsar, which was built by the soldiers in one day. It is navigable equally with the Rhone.

ARARAT, the name of the mountain on which Noah's ark rested, after the abatement of the waters of the universal deluge. Concerning this mountain there are various conjectures; though it is almost universally allowed to be in Armenia Major. Some are of opinion that it is one of the mountains which divide Armenia on the south from Mesopotamia and that part of Assyria inhabited by the *Curds*; from whom these mountains took the name of *Curdu* or *Cardu*, by the Greeks turned into *Gordyæi*, &c. Others, that it lies towards the middle of Armenia, near the river Araxes, above 280 miles distant from the above-mentioned mountains, making it belong to Mount Taurus; but the Armenians are positive that Noah's Ararat is no other than a mountain to which they now give the name of *Mafis*, which lies about 12 leagues to the east of Erivan, and four leagues from the Aras. It is encompassed by several petty hills: on the tops of them are found many ruins, thought to have been the buildings of the first men, who were, for some time, afraid to descend into the plains. It stands by itself, in form of a sugar-loaf, in the midst of a very large plain, detached, as it were, from the other mountains of Armenia, which make a long chain. It consists, properly speaking, of two hills; the lesser of which is the more sharp and pointed: the higher, on which it is said the ark rested, lies to the north-west of it, and rises far above the neighbouring mountains. It seems so high and big, that, when the air is clear, it may be seen four or five days journey off; yet travellers think the height is not extraordinary. Chardin is of opinion that he passed a part of Mount Caucasus which is higher; and Poullet thinks the height of Mount Mafis, or Ararat, not above twice as great as that of Mount Valerian near Paris. They therefore think that its being visible at such a great distance is owing to its lonely situation in a vast plain and upon the most elevated part of the country, without any mountains before it to obstruct the view. Nor is the snow with which it is always covered from the middle upwards any argument of its height; for in this country, ice hath often been observed in the mornings of the middle of July. (See ARMENIA). Certain it is, however, that this mountain hath never yet been ascended; which the Armenians pretend was owing to the interposition of angels, in order to disappoint the curiosity of those who wanted to advance to such a sacred place as that whereon the ark rested: but the excess of cold may very reasonably be supposed able to frustrate all such attempts, without any supernatural interposition. The most distinct account we have of this mountain is that given by M. Tournefort: which, however, being much swelled with immaterial circumstances, it is needless to trouble our readers with at length. He tells us, that this mountain is one of the most disagreeable sights upon earth, without either houses, convents, trees, or shrubs; and seems as if continually wasting and mouldering away. He divides it into three regions: The lowermost, he says, is the only one which contains any human creatures, and is occupied by a few miserable shepherds that tend scabby flocks; and here are also found some partridges: the second is inhabited by crows and tigers; and all the

Ararat.



Ararat  
||  
Aratus.

the rest is covered with snow, which half the year is involved in thick clouds. On the side of the mountain that looks toward Erivan is a prodigious precipice, from whence rocks of an immense size are continually tumbling down with a hideous noise. This precipice seems quite perpendicular; and the extremities are rough and blackish, as if smutted with smoke. The soil of the mountain is loose, and on the sandy parts it is impossible to take a firm step; so that our traveller encountered great difficulties in his ascent and descent of this mountain; being often obliged, in order to avoid the sand, to betake himself to places where great rocks were heaped on one another, under which he passed as through caverns, or to places full of stones, where he was forced to leap from one stone to another. If we may believe Struys, a Dutch writer, however, all these difficulties may be surmounted. He assures us, he went five days journey up Mount Ararat, to see a Romish hermit: that he passed through three regions of clouds; the first dark and thick, the next cold and full of snow, and the third colder still; that he advanced five miles every day; and when he came to the place where the hermit had his cell, he breathed a very serene and temperate air; that the hermit told him, he had perceived neither wind nor rain all the 25 years he had dwelt there; and that on the top of the mountain there reigned a still greater tranquillity, whereby the ark was preserved uncorrupted. He farther pretends, that the hermit gave him a cross made out of the wood of the ark, together with a certificate; a formal copy of which the author has given in his sham relation.

ARASSI, a maritime, populous, and trading town of Italy, in the territory of Genoa. E. Long. 7. 20. N. Lat. 44. 3.

ARATEIA, in *Antiquity*, a yearly festival celebrated at Sicyon, on the birth day of Aratus, wherein divers honours were paid by a priest consecrated to this service, who for distinction's sake wore a ribband bespangled with white and purple spots. The Arateia were solemnized with much pomp of music, the choristers of Bacchus attending.

ARATUS, general of the Achæans, conquered Niocles tyrant of Sicyon. Two years after he surprised the castle called *Acrocorinthus*, and drove out the king of Macedonia: he delivered Argos from its tyrants, and was poisoned by Philip II. king of Macedonia, whom he had newly restored. He was about 62 when he died, the second year of the 141st Olympiad. He was interred at Sicyon, and received the greatest honours from his countrymen. His son, who had also been prætor, was poisoned by King Philip. Polybius gives us so great a character of Aratus the father's Commentaries or History, that the loss of so valuable a work is highly to be regretted.

ARATUS, a Greek poet, born at Soli, or Solæ, a town in Cilicia, which afterwards changed its name, and was called *Pompeopolis*, in honour of Pompey the Great. He flourished about the 124th, or according to some, the 126th Olympiad, in the reign of Ptolemy Philadelphus king of Egypt. He discovered in his youth a remarkable poignancy of wit, and capacity for improvement; and having received his education under Dionysius Heracleotes, a Stoic philosopher, he espoused the principles of that sect. Aratus was phy-

scian to Antigonus Gonatus, the son of Demetrius Poliorcetes, king of Macedon: this prince, being a great encourager of learned men, sent for him to court, admitted him to his intimacy, and encouraged him in his studies. The *Phænomena* of Aratus, which is still extant, gives him a title to the character of an astronomer as well as a poet; in this piece he describes the nature and motion of the stars, and shows the particular influences of the heavenly bodies, with their various dispositions and relations. He wrote this poem in Greek verse: it was translated into Latin by Cicero; who tells us, in his first book *De Oratore*, that the verses of Aratus are very noble. This piece was translated by others as well as Cicero; there being a translation by Germanicus Cæsar, and another into elegant verse by Festus Avienus. An edition of the *Phænomena* was published by Grotius, at Leyden, in quarto, 1600, in Greek and Latin, with the fragments of Cicero's version, and the translations of Germanicus and Avienus; all which the editor has illustrated with curious notes. He was certainly much esteemed by the ancients, since we find so great a number of scholiasts and commentators upon him. There are several other works also ascribed to Aratus. Suidas mentions the following: Hymns to Pan; Astrology and Astrothety; a composition of Antidotes; an *Enchiridion* on Theopropus; an *Hydroponia* on Antigonus; an Epigram on Phila, the daughter of Antipater, and wife of Antigonus; an Epicedium of Cleombrotus; a Correction of the *Odyssæy*; and some Epistles in prose. Virgil, in his *Georgics*, has imitated or translated many passages from this author; and St Paul has quoted a passage of Aratus. It is in his speech to the Athenians (*Acts xvii. 28.*) wherein he tells them, that some of their own poets have said, *Του γὰρ καὶ γένος ἐσμέν*: "For we are also his offspring." These words are the beginning of the fifth line of the *Phænomena* of Aratus.

ARAVA, a fortress of Upper Hungary, in a county and on a river of the same name. E. Long. 20. c. N. Lat. 49. 20.

ARAUCO, a fortress and town of Chili, in South America; situated in a fine valley, on a river of the same name. The bravery of the natives drove the Spaniards out of their country even without fire arms. W. Long. 51. 20. S. Lat. 42. 30.

ARAUSIO, or *Civitas Arausensis*, or *Arausicorum* (Notitiæ); *Colonia Secundanorum* (Mela, Pliny, Coins); so called, because the veterans of the second legion were there settled: The capital of the Cavares, in Gallia Narbonensis. Now *Orange*, in the west of Provence, on an arm of the rivulet *Egue*, which soon after falls into the Rhone, from which it is distant a league to the east, at the foot of a mountain. Here is an ancient amphitheatre to be still seen. E. Long. 4. 46. N. Lat. 44. 10.

ARAW, a town of Switzerland, in Argow, seated on the river Aar. It is handsome, large, and remarkable for its church, its fountain, and the fertility of the soil. E. Long. 18. o. N. Lat. 47. 25.

ARAXES, now the Aras, a river of Armenia Major, which takes its rise in a mountain called *Ablos*, where the Euphrates also hath its origin. From this mountain it runs eastward with a serpentine course, discharging itself into the Caspian sea, after a run of upwards of 500 miles, during which it receives some considerable

Aratus  
||  
Araxes.



Arba. siderable rivers. Some have imagined that it hath its rise in Mount Ararat; but Tournefort assures us that it comes no nearer that mountain than 12 miles. The Araxes is a very rapid river, and is supposed to be the Gihon mentioned by Moses. Besides this extreme rapidity, it is very apt to overflow after rains; so that they have in vain endeavoured to build bridges over it; though some of them appear, from the few arches remaining, to have been built of the best materials, and in the strongest manner. Such is the vehemence of its current after the thawing of the adjacent snows, or some fierce rains, that neither banks nor dikes can resist it: so that nothing can be more terrible than the noise and violence of its waves at such times: but in winter, when its waters are low, it is fordable in some places on camels.

ARBA, in *Ancient Geography*, an island and city of Illyria, now *Arbe*, in the gulf of Quararo. Of this island, which has been but slightly noticed by geographers, we have the following description by the Abbé Fortis.

In the Roman times, it is probable that there were no other cities in Arbe but that which bears the name of the island, in the neighbourhood of which ancient monuments are frequently dug up.

This city of Arbe, though the capital of a small island, not above thirty miles round, wholly uncultivated, and uninhabitable in the highest part that faces the channel of Morlacca, has always maintained itself with decorum. That it was inhabited by civilized people in the Roman times, is evident, by the inscriptions that have been frequently discovered there, and others still remaining at Arbe. In the lower times it suffered all the calamities to which the neighbouring countries were subjected, but it always recovered itself with honour even after dissolution.

The archives of the community of Arbe contain some ancient papers that are truly valuable, and they are kept with great jealousy; by them it appears, that, in the eleventh century, gold and silk were not rare among the inhabitants. Arbe was subject to the kings of Hungary; afterwards it became dependent on Venetian feudatories; and at last was taken under the immediate dominion of the most serene republic, by which a governor is appointed who has the title of count and captain. The number of people on the island does not much exceed three thousand souls, distributed in a few parishes, which might be officiated by a small number of priests: Yet, through a monstrous inconsistency that falls very heavy on the poor inhabitants, they have to maintain no less than three convents of friars, and as many of nuns, besides the considerable charge of near sixty priests, who have a very scanty provision.

The climate of Arbe is none of the happiest; the winter season is horrid, especially when agitated by the violent northerly winds, which sometimes transform the intermediate seasons into winter, and cause the summer itself to disappear. These furious winds do great damage to the island, particularly in the winter and spring. Two years ago, about twelve thousand sheep perished in one night, of cold, in the common pastures of the mountain; where, according to the custom over all Dalmatia, they are left in the open air the whole year round. The salt fog raised by the dread-

ful commotion of the waves, which often roar, between the mountains of Arbe and the opposite Alps, in the narrow channel of Morlacca, consumes all the buds of the plants and corn, if it happens to be driven upon the island by the wind; and it is followed by a cruel scarcity of every kind of product. This calamity communicates its baneful influence even to the flesh of the animals left on the pastures, that becomes ill tasted, in consequence of the bitterness and bad nourishment of the food. Abstracting from these irregularities, the air of Arbe is healthful; nor ought the constant summer fevers among the inhabitants to be attributed to its influence, as they are, more probably, derived from unwholesome food, and a way of life differing little from that of the Hottentots.

The appearance of the island is exceedingly pleasant. On the east it has a very high mountain, of the same substance as the Morlacca, of which it was once a part. At the foot of this mountain, the rest of the island is extended to the westward, and divided into beautiful and fruitful plains interspersed with little hills fit to bear the richest products. At the extremity that looks to the north, a delightful promontory, called Loparo, stretches into the sea; it is crowned with little hills, which almost quite enclose a fine cultivated plain. Near this promontory are the two small islands of S. Gregorio and Goli, very useful to shepherds and fishers. The coast of Arbe, that faces the Morlacca mountains, is quite steep and inaccessible; and the channel between them is extremely dangerous, being exposed to furious winds, and without a single port on either side. The long and narrow island of Dolin, lying parallel to the island of Arbe, along the coast of Barbado, forms a channel less dangerous, though by no means so secure as it is beautiful to look at. There are several harbours in the neighbourhood of the city of Arbe, by which the trade of the best part of the island is facilitated.

The city stands on a rising ground between two harbours, which form a peninsula; it contains about a thousand inhabitants, among whom are many noble families, but few of them are rich. Among the most remarkable curiosities of the island, the Arbegiani are proud of many egregious relicks, and particularly of the head of S. Cristofano their protector; but the lovers of sacred antiquity will find something much more singular in the three heads of Shadrach, Meshech, and Abednego, which are venerated there with great devotion. Four of the principal gentlemen are keepers of the sanctuary, and to their care the precious records of the city are also committed. Among these records there is a transaction of MXVIII, by which the city of Arbe promises to the doge of Venice, Ottone Orfeolo, a tribute of some pounds *de seta serica*, "of wrought silk," and in case of contravention, pounds *de auro obrizo*, "of pure gold."

In the last age there was a learned bishop of Arbe, named Ottavio Spaderi, who would not permit the relicks of S. Cristofano to be exposed to the public veneration, on the solemnity of the saint's day, because he doubted of their authenticity. The mob rose, and was going to throw him down from the top of the hill on which the cathedral stands; nor did the tumult cease after the day was past. The government sent an armed vessel to deliver the prelate from the danger  
He



Arba,  
Arbaces.

he was in; and the Pope thought proper to give him a more tractable spouse in Italy.

The nature of the soil of Arbe is not the same in every situation; nay it would be difficult to find a country where there is so great a variety in so little space. There is a very great difference between the ground of the extremity of the mountain above the channel of Barbado, and the sides of it on the one part towards the island, and on the other facing the ridge of Morlacca. Nor is the top of the mountain itself always of the same structure: for in some parts it is extended in a fine level plain, partly woody and partly cultivable; in other places it is quite rocky, and composed of bare marble. The ground at the foot of the mountain, where it stretches towards the shore, opposite to Jablanaz, is nothing but marble; and, in the district of Barbado it is gravelly, and a good soil for vines. The wine of Barbado is of excellent quality, and in great estimation; hardly any other product is cultivated along that coast, as the vines succeed so well, notwithstanding the negligent culture. Below the pretended ruins of Colento the land bears vines, olives, mulberry, and other fruit trees, and also corn in the lowest parts. All the lower part of the island is composed alternately of little hills and valleys, and of a substance for the most part very different from that of the mountain and its adjacencies. As the organization of the mountain is wholly of marble, so that of the hills is generally arenaceous. The whetstone forms a large part, and frequently contains *ostracites* and *lenticulares*; the exterior stratum is commonly friable. The valleys, which according to appearances should be full of sand, are provided with an excellent soil, with such a mixture of very minute sand as is requisite to keep it light. Springs of fresh water are by nature well distributed over the island, and maintain a proper humidity when the summer is not excessively dry; so that the dark verdure of the hills covered with wood, the luxuriance of the vines, and freshness of the corn ground, form a spectacle extremely cheerful and agreeable.

The island of Arbe would have every thing requisite for the subsistence of its small population, if the land was cultivated by a people less stupid and lazy. It produces, however, firewood, of which many cargoes are annually sent to Venice; corn, oil, excellent wine, brandy, and silk, since very ancient times; it also exports hides, wool, sheep, hogs, and horses of a good breed. There is also abundance of good salt made on the island; and the fishing of tunny and mackerel, notwithstanding it is managed in a slovenly and awkward manner, makes no inconsiderable article of trade to the Arbegiani, who, like all their neighbours, find their account in selling this commodity to strangers rather than to the Venetians. Yet, with all these natural products, the island is very far from being rich, or even in a tolerably flourishing state; because there is much land left uncultivated, and the peasants are lazy.

ARBACES governed Media under Sardanapalus. Seeing him spinning among a company of his women, he stirred up his people to revolt, and dethroned Sardanapalus; who thereupon burnt himself in his palace. Arbaces being crowned, began the monarchy of the Medes, which lasted 317 years under nine kings, till Astyages was expelled by Cyrus. Arbaces reigned 22 years, and died A. M. 3206. See MEDIA.

ARBALEST, or CROSS BOW. See CROSS BOW.

ARBELA, now IRBIL, a city of Assyria, lying in E. Long. 44. 5. N. Lat. 35. 15. It is famous for the last and decisive battle fought in its neighbourhood between Alexander the Great and Darius Codomanus. This battle was fought 331 years before Christ, and the event of it determined the fate of the Persian empire. Arrian relates, that Darius's army consisted of a million of foot and 40,000 horse; according to Diodorus, there were 200,000 horse and 800,000 foot; Plutarch relates, that the horse and foot together made up a million; and Justin gives us exactly half Diodorus's number. The Macedonian army, according to Arrian, consisted of 40,000 foot and 7000 horse.

Upon receiving notice of the vast strength of the enemy, Alexander expressed neither surprise nor apprehension; but having "commanded a halt, he encamped four days, to give his men rest and refreshment. His camp being fortified by a good intrenchment, he left in it the sick and infirm, together with all the baggage; and, on the evening of the fourth day, prepared to march against the enemy with the effective part of his army, which was said to consist of 40,000 infantry and 7000 horse, unencumbered with any thing but their provisions and armour. The march was undertaken at the second watch of the night, that the Macedonians, by joining battle in the morning, might enjoy the important advantage of having an entire day before them, to reap the full fruits of their expected victory. About half way between the hostile camps, some eminences intercepted the view of either army. Having ascended the rising ground, Alexander first beheld the barbarians, drawn up in battle array, and perhaps more skilfully marshalled than he had reason to apprehend. Their appearance, at least, immediately determined him to change his first resolution. He again commanded a halt, summoned a council of war; and different measures being proposed, acceded to the single opinion of Parmenio, who advised that the foot should remain stationary until a detachment of horse had explored the field of battle and carefully examined the disposition of the enemy. Alexander, whose conduct was equalled by his courage, and both surpassed by his activity, performed those important duties in person at the head of his light horse and royal cohort. Having returned with unexampled celerity, he again assembled his captains, and encouraged them by a short speech. Their ardour corresponded with his own; and the soldiers, confident of victory, were commanded to take rest and refreshment.

"Meanwhile Darius, perceiving the enemy's approach, kept his men prepared for action. Notwithstanding the great length of the plain he was obliged to contract his front, and form in two lines, each of which was extremely deep. According to the Persian custom, the king occupied the centre of the first line, surrounded by the princes of the blood and the great officers of his court, and defended by his horse and foot guards, amounting to 15,000 chosen men. These splendid troops, who seemed fitter for parade than battle, were flanked on either side by the Greek mercenaries and other warlike battalions, carefully selected from the whole army. The right wing consisted of the Medes, Parthians, Hyrcanians and Sacæ; the left was chiefly occupied by the Bactrians, Persians, and Cardusians.

Arbalest,  
Arbela.Gillies',  
Hist. of  
Greece.



Arbela. dufians. The various nations composing this immense host were differently armed, with swords, spears, clubs, and hatchets: while the horse and foot of each division were promiscuously blended, rather from the result of accident than by the direction of design. The armed chariots fronted the first line, whose centre was farther defended by the elephants. Chosen squadrons of Scythian, Bactrian, and Cappadocian cavalry advanced before either wing, prepared to bring on the action, or after it began to attack the enemy in flank and rear. The unexpected approach of Alexander within sight of his tents prevented Darius from fortifying the wide extent of his camp; and, as he dreaded a nocturnal assault from enemies who often veiled their designs in darkness, he commanded his men to remain all night under arms. This unusual measure, the gloomy silence, the long and anxious expectation, together with the fatigue of a restless night, discouraged the whole army, but inspired double terror into those who had witnessed the miserable disasters on the banks of the Granicus and the Issus.

“At daybreak Alexander disposed his troops in a manner suggested by the superior numbers and deep order of the enemy. His main body consisted in two heavy-armed phalanxes, each amounting to above 16,000 men. Of these the greater part formed into one line; behind which he placed the heavy-armed men, reinforced by his targeteers, with orders, that when the out-spreading wings of the enemy prepared to attack the flanks and rear of his first line, the second should immediately wheel to receive them. The cavalry and light infantry were so disposed on the wings, that while one part resisted the shock of the Persians in front, another, by only facing to the right or left, might take them in flank. Skillful archers and darters were posted at proper intervals, as affording the best defence against the armed chariots, which (as Alexander well knew) must immediately become useless whenever their conductors or horses were wounded.

“Having thus arranged the several parts, Alexander with equal judgment led the whole in an oblique direction towards the enemy’s left; a manœuvre which enabled the Macedonians to avoid contending at once with superior numbers. When his advanced battalions, notwithstanding their nearness to the enemy, still stretched towards the right, Darius also extended his left, till, fearing that by continuing this movement, his men should be drawn gradually off the plain, he commanded the Scythian squadrons to advance, and prevent the farther extension of the hostile line. Alexander immediately detached a body of horse to oppose them. An equestrian combat ensued, in which both parties were reinforced, and the barbarians finally repelled. The armed chariots then issued forth with impetuous violence; but their appearance only was formidable; for the precautions taken by Alexander rendered their assault harmless. Darius next moved his main body, but with so little order, that the horse, mixed with the infantry, advanced, and left a vacancy in the line, which his generals wanted time or vigilance to supply. Alexander seized the decisive moment, and penetrated into the void with a wedge of squadrons. He was followed by the nearest sections of the phalanx, who rushed forward with loud shouts, as if they had already pursued the enemy. In this part of the field, the vic-

VOL. II. Part II.

tory was not long doubtful; after a feeble resistance, the barbarians gave way; and the pusillanimous Darius was foremost in the flight.

“The battle, however, was not yet decided. The more remote divisions of the phalanx, upon receiving intelligence that the left wing, commanded by Parmenio, was in danger, had not immediately followed Alexander. A vacant space was thus left in the Macedonian line, through which some squadrons of Persian and Indian horse penetrated with celerity, and advanced to the hostile camp. It was then that Alexander derived signal and well-earned advantages from his judicious order of battle. The heavy-armed troops and targeteers, which he had skilfully posted behind the phalanx, speedily faced about, advanced with a rapid step, and attacked the barbarian cavalry, already entangled among the baggage. The enemy, thus surprised, were destroyed or put to flight. Meanwhile, the danger of his left wing recalled Alexander from the pursuit of Darius. In advancing against the enemy’s right, he was met by the Parthian, Indian, and Persian horse, who maintained a sharp conflict. Sixty of the *Companions* fell; Hephæstion, Cœnus, and Menidas, were wounded. Having at length dissipated this cloud of cavalry, Alexander prepared to attack the foot in that wing. But the business was already effected, chiefly by the Thessalian horse; and nothing remained to be done, but to pursue the fugitives, and to render the victory as decisive as possible.

“According to the least extravagant accounts, with the loss of 500 men, he destroyed 40,000 of the barbarians, who never thenceforth assembled in sufficient numbers to dispute his dominion in the east. The invaluable provinces of Babylonia, Susiana, and Persis, with their respective capitals of Babylon, Susa, and Persepolis, formed the prize of his skill and valour. The gold and silver found in those cities amounted to thirty millions sterling; the jewels and other precious spoil, belonging to Darius, sufficed, according to Plutarch, to load 20,000 mules, and 5000 camels.” The consequences of this victory the reader will find narrated under the article PERSIA.

ARBERG, a town of Swisserland, in the canton of Bern, with a handsome castle, where the bailiff resides. It is seated on the river Aar, in a kind of island. E. Long. 17. 15. N. Lat. 47. 0.

ARBITER, in the *Civil Law*, implies a judge nominated by the magistrate, or chosen voluntarily by the two contending parties, in order to decide their differences.

The civilians make a difference between *arbiter* and *arbitrator*, though both found their power on the compromise of the parties; the former being obliged to judge according to the customs of the law, whereas the latter is at liberty to use his own discretion, and accommodate the difference in the manner that appears to him most just and equitable.

ARBITRARY, that which is left to the choice or arbitration of men, or not fixed by any positive law or injunction.

*ARBITRARY Punishment*, in *Law*, denotes, such punishments as are by statute left to the discretion of the judge. It is a general rule in arbitrary punishments, that the judge cannot inflict death. Hence all punishments that are not capital have acquired the name of



Arbitra-  
tion  
||  
Arburg.

*arbitrary punishments*, even although they be expressly pointed out by statute.

**ARBITRATION** is where the parties, injuring and injured, submit all matters in dispute, concerning any personal chattels or personal wrong, to the judgment of two or more arbiters or arbitrators; who are to decide the controversy: and, if they do not agree, it is usual to add, that another person be called in as umpire, *imperator* or *impar*), to whose sole judgment it is then referred; or frequently there is only one arbitrator originally appointed. This decision, in any of these cases, is called an *award*. And thereby the question is as fully determined, and the right transferred or settled, as it would have been by the agreement of the parties or the judgment of a court of justice. See **LAW**.

**ARBITRATOR**, a private extraordinary judge, chosen by the mutual consent of parties, to determine controversies between them. See **ARBITER** and **ARBITRATION**.

**ARBOIS**, a small populous town of France, in the department of Jura, formerly Franche Compté, famous for its wines. E. Long. 5. 40. N. Lat. 46. 55.

**ARBON**, an ancient town in Swisserland, on the south banks of the lake Constance, in Thurgaw. It has a castle built by the Romans, and is under the jurisdiction of the bishop of Constance. In the time of war, the Swiss have a right to put in a garrison. The Popish and Protestant religions are equally tolerated in this town. E. Long. 9. 30. N. Lat. 4. 38.

**ARBOR**, in *Botany*, a tree. Trees are by Linnæus classed in the seventh family of the vegetable kingdom, and are distinguished from shrubs in that their stems come up with buds on them; but this distinction holds not universally, there being rarely any buds on the large trees in India.

**ARBOR**, in *Mechanics*, the principal part of a machine, which serves to sustain the rest; also the axis or spindle on which a machine turns, as the *arbor* of a crane, windmill, &c.

*ARBOR Diana*. See **CHEMISTRY Index**.

*ARBOR Vitæ*. See **THUYA**, **BOTANY Index**.

**ARBORESCENT**, an epithet applied to such objects as resemble trees.

*ARBORESCENT Star-fish*, in *Zoology*, a species of asterias. See **ASTERIAS**.

**ARBORIBONSES**, in *Modern History*, priests of Japan, who live an erratic life, and subsist on alms. They dwell in caverns, and cover their heads with bonnets made of the bark of trees.

**ARBORIST**, a person skilled in that part of botany which treats of trees.

**ARBOUR**, in *Gardening*, a kind of shady bower, formerly in great esteem; but of late rejected on account of its being damp and unwholesome.

Arbours are generally made of lattice work, either of wood or iron; and covered with elms, limes, hornbeams; or with creepers, as honeysuckles, jasmynes, or passion flowers; either of which will answer the purpose very well, if rightly managed.

**ARBROATH**. See **ABERBROTHICK**.

**ARBURG**, a town of Swisserland, in the canton of Bern, on the river Aar. It is small, but very strong, being seated on a rock, and defended by a good

fortress cut out of the rock. E. Long. 17. 55. N. Lat. 47. 10.

**ARBUSCULA** is used by Bradley to denote a little or dwarf tree, above the rank of shrubs, but below that of trees; such, e. g. as the elder.

**ARBUSTUM** implies a number or multitude of trees planted for the fruit's sake.

The word was more peculiarly applied to a place planted with trees for fastening vines to, which are hence called by Columella *arbutivæ*.

**ARBUSTUM** is sometimes also used to denote an orchard, or field wherein trees are planted at such distance that there is room for ploughing and growing corn between.

**ARBUTHNOT, ALEXANDER**, principal of the university of Aberdeen in the reign of James VI. of Scotland, was born in the year 1538. He studied first at Aberdeen; and was afterwards sent over to France, where, under the famous Cujacius, he applied himself to the study of the civil law. In the year 1563, he returned to Scotland, and took orders. Whether he was ordained by a bishop or by presbyters, is a matter of uncertainty. In 1568, he was appointed minister of Arbuthnot and Logie Buchan; and in the following year, Mr Alexander Anderson being deprived, our author was made principal of the king's college at Aberdeen, in his room. In the general assembly which met at Edinburgh in the years 1573, and 1577, he was chosen moderator; and to the end of his life was an active supporter of the reformed religion. He died in 1583, in the 45th year of his age; and was buried in the College church of Aberdeen. We are told in the *Biographia*, that he was eminent as a poet, a philosopher, a mathematician, a lawyer, a divine, and a physician. He wrote *Orationes de origine et dignitate juris*, printed at Edinburgh, 1572, 4to. His cotemporary Thomas Maitland wrote a copy of Latin verses on the publication of this book: they are printed in the *Delic. Poetar. Scot.* He published Buchanan's History of Scotland in the year 1582.

**ARBUTHNOT, John**, M. D. the son of an Episcopal clergyman in Scotland, was born soon after the Restoration at Arbuthnot near Montrose. After acquiring a competent knowledge of the elementary parts of education, he was sent to the college of Aberdeen, where the buddings of those great qualities and those fallies of wit, which contributed so much to his future greatness, soon made their appearance. Having there gone through a course of academical studies, and obtained the degree of doctor of physic, he went to London, in order to reap the fruits both of his natural and acquired abilities. He then began to display his talents, in teaching mathematics, in which he was very expert. "An Examination of Dr Woodward's Account of the Deluge," &c. in 1697, first made him known to the learned world. This performance was received with great applause; and in 1700 a treatise "On the Usefulness of Mathematical Learning" still increased his reputation. A very interesting paper "On the Regularity of the Births of both Sexes," demonstrating from authentic proofs the universal similarity which is observed by nature in this circumstance, and drawing from these several political and moral inferences, which he presented to the Royal Society,

Arbuscula  
||  
Arbuthnot.



Arbuthnot. ciety, procured his election in 1704 into that body.

Meanwhile, in his own proper profession, he was acquiring considerable eminence, and was appointed on account of his great medical knowledge, physician extraordinary to Prince George of Denmark, and shortly afterwards one of the physicians in ordinary to Queen Anne. He was admitted in 1710 a fellow of the college. He formed about this period a very intimate acquaintance, which lasted with unabating tenderness and affection during the rest of his life, with these great literary men, Pope, Gay, and Swift. In 1714 he engaged in an extensive design, of making a satire upon all the abuses of science in every branch, in cooperation with Pope and Swift, which was to be written under the form of the history of a fictitious character, and in the grave ironical style. The plan was never finished, but the "Memoirs of Martinus Scriblerus," published in Pope's works, form a part; of which, much is the performance of Dr Arbuthnot. It is very probable, that the whole of the first book is of his composition, in which the great profoundness of knowledge that is discerned, and the good-natured pleasantry with which the satire is directed, has gained it the character of one of the most original, learned, and interesting pieces in the English language. Those parts which relate to anatomy, the manners and customs of antiquity, and logic, are particularly his performance. On the death of Queen Anne, he made a visit to Paris, in order to drive away the melancholy which attended him on account of that circumstance, which was a severe stroke to him, and destructive not only to his personal, but also to his political views. Returning from thence, as his medical services were no longer required at St James's, he retired from it, and followed at large the practice of his profession; yet he did not thence give up his literary pursuits, but pursued them with great ardour, although long intervals take place between the times of his publications. A work entitled "Tables of Ancient Coins, Weights, and Measures," explained and exemplified in several dissertations, in a 4to vol. appeared in 1727, which is the chief of his serious performances. Although there are several inaccuracies in it which could hardly be avoided in so intricate a subject, it is a work of great merit, and has ever since been considered as the standard authority. A treatise "On the Nature and Choice of Aliments," which was published in 1732, and another published in 1733, "On the Effects of Air on Human Bodies," finish the list of his sterling works. Both these were well received by the faculty, and continue to be still esteemed, and are occasionally read and quoted. Respecting his humorous works, which were the productions of his leisure hours, they are so confounded with those of his contemporaries, that it is not easy to distinguish them. But a piece which, independent of any other, would raise him to the character of the first humorous writer in the English language, entitled the "History of John Bull," is confidently ascribed to him. This is conducted with great wit and humour, and all the circumstances and characters are most admirably adapted. Among his several avowed ironical pieces are "A Treatise concerning the Altercation or Scolding of the Ancients", and the "Art of political Lying."

In the year 1751, there was published two small vo-

lumes, entitled "The Miscellaneous Works of Dr Arbuthnot;" but the greatest part of what they contain is denied by his son to be of his composition. As it was customary for him, when any comical occurrence took place, which struck his fancy, to write concerning it in a large folio which lay in his parlour; it is very probable, that many slight and imperfect essays, which had gone out of his remembrance, might get abroad into the world. Through all his pieces of this kind there runs a vein of good-natured pleasantry; and this tends to confirm the character given of him by Swift, to a lady who desired to know his opinion concerning Dr Arbuthnot, "He has more wit than we all have, and his humanity is equal to his wit." Although his writings are free from that gall and rancour, too common among party writers, yet they cannot be said to be altogether free from a party spirit. He, however, cannot be excused in one instance, of allowing his personal dislike to overrule his humanity, viz. in the "Memorandums of the six days preceding the death of a late Right Reverend" (meaning Bishop Burnet). The indignation of a virtuous man towards an infamous character, is sufficient to justify his severity in his bitter "Epitaph on Colonel Chartres;" and this severity was probably aggravated by party spirit. Although he had no proper poetical talent, yet he made an effort to try his genius in that kind of composition. A piece, published in Doddsley's collection, is valuable for its philosophical sentiment, which is entitled ΓΝΩΘΙ ΣΕΑΥΤΟΝ, *Know thyself*. He was also skilled in music; and Sir J. Hawkins mentions an anthem and a burlesque song, which are ascribed to him.

In these occupations he passed his days, amid all the pleasures that can render domestic life happy, in the affection and estimation of his friends, beloved and esteemed by all his literary associates, who have each taken great pains to celebrate their mutual friendship. Swift in one of his poems sincerely laments that he is

"Far from his kind Arbuthnot's aid,  
Who knows his art, but not his trade."

Pope has dedicated to him an epistle, called a "Prologue to the Satires." He was full of humility and resignation in all the dispensations of Providence. Of his two sons, he witnessed the death of one; and the other, with some daughters, survived him. At length, from an inveterate asthma, he fell into a dropical disorder; and, in order to try the effect of a change of air, he repaired to Hampstead, but without the least gleam of hope respecting a recovery, as he assured his friends Pope and Swift. Returning to his house in London, he died February 27. 1734-5. His latest letters display a great serenity of mind, an exemplary piety, a contempt of vice, and a glowing desire of virtue. (*Gen. Biog.*)

ARBUTUS, the STRAWBERRY TREE. See BOTANY Index.

ARC, JOAN OF, generally called the *Maid of Orleans*, one of the most famed heroines in the annals of history, was born about the beginning of the 15th century at Domremy, near Vaucouleurs in Lorraine, where her father, a peasant, named James d'Arc, resided. When she was able in the least degree to earn a sustenance for herself, her parents, who were but poor, put her to service at a small inn, where she per-



Arc.

formed several offices, more properly belonging to the other sex, such as riding the horses to water without a saddle, and attending them in the fields, and many other similar services, which greatly displayed her masculine habit of body. At the time when Charles VII. was reduced to a very low condition, and the greatest part of his country had been overrun by the English, Joan, probably then at the age of 27 or 29, imagined that she saw several visions, and that in one of these she was commanded by St Michael, to go immediately to the relief of Orleans, at that time closely besieged by the English army, and then to procure the consecration of the king at Rheims. In February 1429, her parents took her to the governor of Vaucouleurs, named Baudricourt, who at first held her pretended inspiration to be no more than an idle tale, and treated it with the contempt such a thing would have deserved; but at last induced by her entreaties, he sent her to Chinon, where the king then was, in order that she might be introduced to him. Charles, whether it proceeded from earnest or not, in order to find her, determined to present her to a company of his nobles, where no mark of dignity tended to distinguish him from them; and, it is asserted, that she immediately recognized him, and informed him of secrets which he had endeavoured to conceal from every person. She boldly engaged to accomplish the two objects of her mission, and required that they should arm her with a consecrated sword, which lay in the church of St Catharine of Fierbois; and although she had never seen it, she accurately described every particular concerning it. The manner in which she acted inspired many with confidence; and certain doctors of the church were appointed to inspect into the nature of her inspiration, and matrons to give proofs of her virginity. The report which they gave was very favourable; but being next put into the hands of the parliament, they treated her as frantick, and demanded that she should shew them a miracle. She answered, that although she had not any at that time to present, she would soon accomplish one at Orleans. At length being fully armed and mounted, she was sent to Orleans along with the army destined for its relief. By displaying a consecrated banner, she soon cleansed the camp of intemperance; and by her whole deportment, animated the soldiers by her exemplary enthusiasm. Entering Orleans, she introduced a convoy, and boldly attacking the English in their forts, she routed them with great slaughter, and struck them with such a panic, that they were even obliged to raise the siege with great precipitation. The dignity of a superior mind and a brave heroism reigned through all her actions. Various other successes followed in a short time, and the dismayed English everywhere fled before the hand of a conquering enemy, whom they had but lately contemned. Joan now thinking it proper to perform her other promise of crowning the king at Rheims, proceeded with him through the kingdom, in order to receive submission of the towns as he marched, which he did without any opposition. Arriving at Rheims, the keys of the city were delivered to him, and, entering the town, he was anointed and crowned with the holy oil of Clovis, Joan standing by his side in full armour, and displaying her consecrated banner. Charles filled with gratitude for her important services, ennobled

Arc.

her family, and conferred upon it the title of *the Sys*, with a conformable estate in land. The two objects of her mission being now accomplished, Joan prepared to retire into the country; but Dunois, the general, being sensible of her importance on account of her pretended inspiration, endeavoured to persuade her to remain in arms until the English should be fully driven from the country; which by his persuasions he effected. Advised by him she cast herself into Compeigne, then closely besieged by the English and the duke of Burgundy. Having there made a sally upon the enemy, she drove them from their intrenchments; but being safely deserted by her followers, she was taken prisoner. Upon her capture, the English enjoyed a malignant gratification, and resolved to shew her no mercy, on account of the change she had occasioned in their affairs. The duke of Bedford, the regent, having ransomed her from the captors, appointed a criminal prosecution against her upon the charges of employing forcery and magic, and of being impious. He was joined in the accusation by the clergy, and by the university of Paris. She was carried in irons before an ecclesiastical commission at Rouen, where several capricious interrogatories were put to her during a trial of about four months, to which she answered with steadiness and gravity. Among several other questions, she was interrogated why she had assisted at the coronation of Charles with her standard in her hand. She boldly replied, "Because the person who shared in the danger, had a right to share in the glory." Her defence was not so strong concerning her pretended inspiration and visions, which were the most dangerous points of the attack. She appealed to the pope upon being accused on these grounds of impiety and heresy; but her appeal was not allowed. At length she was condemned of being a blasphemer and forceress, and accordingly delivered over to the power of the civil magistrate. A view of the dreadful punishment that awaited her, at last overpowered her resolution; and she endeavoured to escape it, by making a disavowal of her pretended revelations, and a full renunciation of her errors. Her sentence was then changed into perpetual imprisonment, but this punishment did not assuage the fury of her barbarous enemies. They craftily laid a man's dress in her chamber, and she, induced by the sight of an apparel in which she had gained so much honour, put it on; and, upon being discovered, her enemies condemned her to the stake, interpreting the action into a relapse of heresy. She suffered her punishment in June 1431, at the market-place of Rouen, with great firmness; and even the English themselves beheld the scene with tears. Her death will for ever cast an indelible stigma on the character of her cruel prosecutors. Charles did nothing towards avenging her cause; but ten years afterwards, contented himself with procuring the restoration of her memory by the pope, and a reversion of the process. She was styled in that act, a "martyr to her religion, her country, and her king." In their enthusiastic admiration, her countrymen were not slow in honouring her memory. Many marvellous stories were related by them concerning her death. Some supposed that she was not actually dead, and continually expected, that, as formerly, she would come, and at their head lead them on to victory. A consistent

ent



Arcade  
||  
Arcangis.

ent and uniform judgment respecting the actions and address of this personage cannot be made by posterity. That she gave herself up to the influence of a heated fancy, and that she was confident in the idea of her divine inspiration, and that this notion was so improved by certain favourites of Charles, as to excite the emotions of the public, seems to be the most probable supposition. That the appearance of the Maid of Orleans tended to give a decisive turn to the contest between the English and the French, has never in the least been questioned.

The praise and exploits of this noble heroine have formed the subject of various works both in prose and verse. In verse, that of Voltaire is very licentious and burlesque, and is an injury to her memory; but it has in a great degree been repaired by that most spirited and sublime poem of Southey, in English, which represents her in the most lively and striking colours of heroism and virtue; and by that of Chapelain, although it did not meet with such success. (*Gen. Biog.*)

ARCADE, in *Architecture*, is used to denote any opening in the wall of a building formed by an arch.

ARCADI, or ARCADIAN, the name of a learned society at Rome. See ACADEMY.

ARCADIA, an inland district in the heart of Peloponnesus (Strabo). It is mountainous, and fitter for pasture than corn; and therefore chiefly celebrated by bucolic or pastoral poets, who feign Pan, the god of shepherds, to be the guardian of it (Virgil). It has to the north Achaia, to the east Argos and Laconia, Messenia to the south, and Elis to the west. According to Pliny, the wine of this country cured barrenness in women, and inspired the men with rage; and the berries of the yew gathered there were so strong a poison, that whoever slept or took refreshment under that tree was sure to die. In Strabo's time there were few cities remaining in it, most of them being destroyed in the Grecian wars. Eustathius says, that the country was anciently called *Pelafgia*, from Pelafgos, who brought the people, from roots, herbs, and leaves of trees, to feed on acorns, especially beech mast; as Artemidorus observes, that the Arcadians usually lived on acorns. It was also called *Lycaonia*, *Gigantis*, and *Parrhasia* (Stephanus). The Arcadians are greatly commended for their love of, and skill in, music (Virgil, Polybius). To imitate the Arcadians, is to labour and toil for the benefit of others, never conquering their own, but the enemies of others (Hesychius). This probably took its rise from the ancient Arcadians being accustomed to hire themselves out as mercenaries to foreign nations. Homer commends their martial prowess, their pastures, their sheep, and their country well watered. The gentilious name is *Arcades*; who boasted of their great antiquity, and that they were older than the sun and moon (Apollonius Rhodius, Nonnius, Plutarch, Ovid, Statius). They were the first who had a year of three months, and therefore called *Proceleni*, because their year was prior to that adjusted in Greece to the course of the moon (Censorinus).

ARCANGIS, in the Turkish armies, an inferior kind of infantry, which serve as *enfants perdus*, and to harass and pillage the enemy's frontiers. The Arcangis are an order inferior to the Janizaries; and when any of them distinguish themselves, are usually preferred

to the Janizaries order. They have no pay, but are to subsist on their plunder.

ARCANUM, among *Physicians*, any remedy, the preparation of which is industriously concealed, in order to enhance its value.

ARCANUM, in *Ancient Geography*, a villa of Q. Cicero, Tully's brother, in Latium, (Cicero). Nova Arce, in the Terra di Lavora, in the kingdom of Naples, on the borders of the Campagna di Roma, on the river Melpis, between Arpinum and Aquinum.

ARCBOUTANT, in *Building*, an arched buttress. See BUTTRESS.

ARCESILAUS, a celebrated Greek philosopher, about 300 years before the Christian era, was born at Pitane, in Eolis. He founded the second academy, which is called the *second school*. He was a man of great erudition, and well versed in the writings of the ancients. He was remarkable for the severity of his criticisms; but nevertheless he knew how to accommodate himself to the age, and pursue the allurements of pleasure. He had a great number of disciples. His doctrines were different in several respects from those of the ancient school: and perhaps he was led into this diversity of opinions by many capital errors in the ancient school, such as the incredible arrogance of the dogmatists, who pretended to assign causes for all things; the mysterious air they had thrown upon the doctrine of ideas; the entirely discarding the testimony of the senses; the objections of the Pyrrhonists, who now began to broach their opinions; the powerful opposition of the Stoics and Peripatetics, who discovered the feeble parts of the Academic philosophy. These might have given cause to reform the ancient school, and to found a new one. The middle school, therefore, laid it down as a principle, that we could know nothing, nor even assure ourselves of the certainty of this position; from whence they inferred, that we should affirm nothing, but always suspend our judgment. They advanced, that a philosopher was able to dispute upon every subject, and bring conviction with him, even upon contrary sides of the same question; for there are always reasons of equal force both in the affirmative and negative of every argument. According to this doctrine, neither our senses, nor even our reason, are to have any credit: and therefore, in common affairs, we are to conform ourselves to received opinions. Arcesilaus was succeeded by his disciple Lacydes.

ARCH, in *Geometry*, any part of the circumference of a circle or curved line, lying from one point to another, by which the quantity of the whole circle or line, or some other thing sought after, may be gathered. See BRIDGE.

ARCH, a concave or hollowed piece of building, constructed in such a manner that the several stones of which it is composed keep one another in their places. The terms *arch* and *vault* properly differ only in this, that the arch expresses a narrower, and the vault a broader, piece of the same kind. The principal difference in the form of arches is, that some are circular, and others elliptical; the former having a larger or smaller part of a circle, the other of an ellipse. What are called *strait arches*, are those frequently used over doors and windows, the upper and under edges of which are strait and parallel, and the ends and joints

Arcanum  
||  
Arch.



Arch joints all pointing toward a centre. The space between two piers of a bridge is called an *arch*, because usually arched over.

*Triumphal ARCHES* are magnificent entries into cities, erected to adorn a triumph, and perpetuate the memory of the action. The arches of Titus and Constantine make at this time a great figure among the ruins of old Rome.

ARCH, in *Composition*, signifies *chief*, or of the *first* class; as archangel, archbishop, &c.

ARCHÆUS, or ARCHEUS. See ARCHEUS.

ARCHANGEL, an angel occupying the eighth rank in the celestial hierarchy. See ANGEL and HIERARCHY.

ARCHANGEL, a city of Russia, in the province of Dwina, situated on the east side of the river Dwina, about six miles from the White sea, in E. Long. 40. 21. N. Lat. 64. 30. The city extends about three miles in length and one in breadth. It is rich, populous, built in the modern taste, and is a metropolitan see. It rose from a castle built on the spot by Basilowitz II. to protect the increasing trade brought there by the discovery of the White sea by the English, and took its name from a monastery built in honour of the archangel Michael. Before this period the commercial intercourse between Russia and the northern parts of Europe had been long carried on by the Hanseatic towns; which usually sailed to Revel or Narva, and from thence passed through Dorpt to Plescof and Novogorod, where their factories were established. The accidental discovery of Archangel, in 1553, deprived the Hanseatic towns of a great part of this lucrative commerce, and transferred it to the English. On the 11th of May, in the above-mentioned year, three ships sailed from Deptford, in order to explore the northern seas, under the command of Sir Hugh Willoughby. Two of these vessels penetrated as high as the 72d degree of latitude, to the coast of Spitzbergen; and being afterwards forced by stress of weather into the bay of the river Arzina in Russian Lapland, both their crews were frozen to death. Richard Chancellor, who commanded the other ship, called the *Bonaventure*, discovering the country bordering upon the White sea, landed near the mouth of the Dwina, in a bay, which he denominated the *Bay of St Nicholas*, from a convent of that name near the present port of Archangel. The czar Iwan Basilowitz, being informed of his arrival, invited him to his court, where he was hospitably entertained, and the czar indulged the English with a free trade in his dominions: in consequence of this permission, a company of merchants was incorporated in London; and being encouraged by particular privileges from the czar, set on foot a considerable commerce, to the mutual advantage of both nations. This traffic the English for some time enjoyed without competition. The Dutch, however, and other nations, gradually insinuated themselves into this commerce; which they carried on to a very great disadvantage, as not being favoured with those privileges which the czar had granted to the English company. These were at last suddenly annihilated by Alexis Michaelovitch; who in 1648 banished the English merchants from all his dominions. The cause of this expulsion is generally imputed to the resentment which the czar conceived against the English for the execution of

Charles I. with whom he was closely connected by leagues of amity and alliance: but in effect he abolished the company's privileges in the year before that event; and his indignation against the English for their rebellion, Mr Coxe affirms, was only a political pretext; the real motive being derived from the offers made by the Dutch to pay duties of export and import to the amount of 15 per cent. if they were indulged with the liberty of carrying on as free a trade as the English throughout his dominions. For not long afterwards, the czar suffered William Prideaux, Cromwell's agent, to reside at Archangel; and permitted the English to renew their commerce in that port upon the same footing with other foreigners. And upon this footing alone our merchants ever after continued to trade.

The commodities chiefly imported into Archangel, were gold and silver stuffs and laces, gold wire, cochineal, indigo, and other drugs for dyeing; wine, brandy, and other distilled spirits. The customs arising to the czar were computed at 200,000 rubles a-year, and the number of foreign ships at 400 annually. But upon the building of Peterburg, Peter the Great abolished the immunities of Archangel, and removed the commerce of the White sea to the havens of the Baltic. Still, however, its exports of tar were considerable; in 1730, to the amount of 40,000 lasts, of 11 barrels each. It sends, during winter, great quantities of the rawaga, a small species of three-finned cod, to Petersburg frozen.

In 1752 Elizabeth again restored the ancient immunities of Archangel; and its present trade is not inconsiderable. It supplies the government of Archangel, part of those of Nishnei-Novogorod and Casan, with European commodities; and draws in exchange from those parts corn, flax, hemp, coarse linen, cordage, sails, masts, and tallow, which are mostly conveyed by the Dwina: it forms also a principal communication with the northern and western parts of Siberia, from whence the merchants procure furs, skins, and iron.

The houses of Archangel are generally of wood, but well contrived; and every chamber is provided with a stove, as a fence against the cold, which is here excessive in the winter. The streets are paved with broken pieces of timber and rubbish, disposed so unskillfully, that one cannot walk over it without running the risk of falling, except when the streets are rendered smooth and equal by the snow that falls and freezes in the winter. Notwithstanding the severity of the cold in this place, there is always plenty of good provisions; butchers meat, poultry, wild fowl, and fish, in a great variety, are sold surprisingly cheap.

The most remarkable edifice in Archangel is a large townhouse, built of square stones in the Italian manner, and divided into three parts. One of these consists of large commodious apartments, for the accommodation of merchants, strangers as well as natives: here they are permitted to reside with their merchandise till the month of October, when all the foreign ships set sail for the respective countries to which they belong. Then the traders are obliged to remove their quarters from the townhouse, or palace, which hath a spacious court, that reaches down to the river.

ARCHBISHOP, the name of a church dignitary



Arch-  
shop.

of the first class. Archbishops were not known in the east till about the year 320; and though there were some soon after this who had the title, yet that was only a personal honour, by which the bishops of considerable cities were distinguished. It was not till of late that archbishops became metropolitans, and had suffragans under them. Athanasius appears to be the first who used the title *Archbishop*, which he gave occasionally to his predecessor; Gregory Nazianzen, in like manner, gave it to Athanasius; not that either of them were entitled to any jurisdiction, nor even any precedence in virtue of it. Among the Latins, Isidore Hispalensis is the first that speaks of archbishops. He distinguishes four orders or degrees in the ecclesiastical hierarchy, viz. patriarchs, archbishops, metropolitans, and bishops.

The archbishop, beside the inspection of the bishops and inferior clergy in the province over which he presides, exercises episcopal jurisdiction in his own diocese. He is guardian of the spiritualties of any vacant see in his province, as the king is of the temporalities; and exercises ecclesiastical jurisdiction in it. He is entitled to present by lapse to all the ecclesiastical livings in the disposal of his diocesan bishop, if not filled within six months. He has likewise a customary prerogative, upon consecrating a bishop, to name a clerk or chaplain to be provided for by such bishop; in lieu of which it is now usual to accept an option. He is said to be enthroned when vested in the archbishopric; whereas bishops are said to be installed.

The ecclesiastical government of England is divided into two provinces, viz. Canterbury and York. Canterbury hath the following suffragan bishoprics appertaining to it, St Asaph, Bangor, Bath and Wells, Bristol, Chichester, Litchfield and Coventry, St David's, Ely, Exeter, Gloucester, Hereford, Landaff, Lincoln, London, Norwich, Oxford, Peterborough, Rochester, Salisbury, Winchester, and Worcester. To York appertaineth the bishoprics of Carlisle, Chester, and Durham; to which may be added the bishopric of Sodor and Man, whose bishop is not a lord of parliament. See **CANTERBURY** and **YORK**.

The archbishop of Canterbury had anciently, viz. till the year 1152, jurisdiction over Ireland as well as England, and was styled a *patriarch*, and sometimes *alterius orbis papa*, and *orbis Britannici pontifex*. Matters were done and recorded in his name thus, *Anno pontificatus nostri primo*, &c. The first archbishop of Canterbury was Austin, appointed by King Ethelbert, on his conversion to Christianity, about the year 598. He was also *regatus natus*. He even enjoyed some special marks of royalty; as, to be patron of a bishopric, which he was of Rochester; and to make knights, coin moneys, &c. He is still the first peer of England, and the next to the royal family; having precedence of all dukes and all great officers of the crown. It is his privilege, by custom, to crown the kings and queens of this kingdom. He may retain and qualify eight chaplains; whereas a duke is allowed by statute only six. He has, by common law, the power of probate of wills and testaments, and granting letters of administration. He has also a power to grant licenses and dispensations in all cases formerly sued for in the court of Rome, and not repugnant to the law of God. He accordingly issues special licenses to marry, to hold

two livings, &c. and he exercises the right of conferring degrees. He also holds several courts of judicature: as, court of arches, court of audience, prerogative court, and court of peculiars.

The archbishop of York has the like rights in his province as the archbishop of Canterbury. He has precedence of all dukes not of the royal blood; and of all officers of state, except the lord high chancellor. He has also the rights of a count palatine over Hexamshire. The first archbishop of York was Paulinus, appointed by Pope Gregory about the year 622. He had formerly jurisdiction over all the bishops of Scotland; but in the year 1470, Pope Sextus IV. created the bishop of St Andrew's archbishop and metropolitan of all Scotland.

*Scotland*, whilst episcopacy prevailed in that country, had two *archbishops*, of St Andrew's and Glasgow; of which the former was accounted the metropolitan; and, even before it arrived at the dignity of an archbishopric, resisted with great spirit all the attempts of the archbishops of York in England to become the metropolitans of Scotland. The sees of Argyll, Galloway, and the Isles, were suffragans to Glasgow; all the others in the kingdom to St Andrew's.

*Ireland* has four archbishops; of Armagh, Dublin, Cashel, and Tuam; of whom the former is primate of all Ireland.

**ARCHBISHOPRIC**, in *Ecclesiastical Geography*, a province subject to the jurisdiction of an archbishop.

**ARCHBUTLER**, one of the great officers of the German empire, who presents the cup to the emperor on solemn occasions. This office belongs to the king of Bohemia.

**ARCHCHAMBERLAIN**, an officer of the empire, much the same with the great chamberlain in England. The elector of Brandenburg was appointed by the golden bull archchamberlain of the empire.

**ARCHCHANCELLOR**, a high officer who, in ancient times, presided over the secretaries of the court. Under the two first races of the kings of France, when their territories were divided into Germany, Italy, and Arles, there were three archchancellors: and hence the three archchancellors still subsisting in Germany; the archbishop of Mentz being archchancellor of Germany, the archbishop of Cologn, and the archbishop of Treves.

**ARCHCHANTOR**, the president of the chantors of a church.

**ARCHCOUNT**, a title formerly given to the earl of Flanders, on account of his great power and riches.

**ARCHDEACON**, an ecclesiastical dignity or officer next to a bishop, whose jurisdiction extends either over the whole diocese or only a part of it. He is usually appointed by the bishop himself; and hath a kind of episcopal authority, originally derived from the bishop, but now independent and distinct from his. He therefore visits the clergy; and has his separate court for punishment of offenders by spiritual censures, and for hearing all other causes of ecclesiastical cognizance. There are 60 archdeacons in England.

**ARCHDEACON'S COURT**, is the most inferior court in the whole ecclesiastical polity. It is held in the archdeacon's absence, before a judge appointed by himself and called his *official*; and its jurisdiction is sometimes

Arch bi-  
shopric  
||  
Archdea-  
con.



Archdruid  
||  
Archers.

in concurrence with, sometimes in exclusion of, the bishop's court of the diocese. From hence, however, by statute 24 Hen. VIII. c. 12. there lies an appeal to that of the bishop.

ARCHDRUID, the chief or pontiff of the ancient druids of a nation. See DRUID.

ARCHDUKE, a title peculiar to the house of Austria; all the sons of which are archdukes, and the daughters archduchesses. See DUKE.

ARCHELAUS, a celebrated Greek philosopher, the disciple of Anaxagoras, flourished about 440 years before Christ. He read lectures at Athens, and did not depart much from the opinions of his master. He taught that there was a double principle of all things, namely, the *expansion* and *condensation* of the air, which he regarded as infinite. Heat, according to him, was in continual motion. Cold was ever at rest. The earth, which was placed in the midst of the universe, had no motion. It originally resembled a wet marsh, but was afterwards dried up; and its figure, he said, resembled that of an egg. Animals were produced from the heat of the earth, and even men were formed in the same manner. All animals have a soul, which was born with them: but the capacities of which vary according to the structure of the organs of the body in which it resides.—Socrates, the most illustrious of his disciples, was his successor.

ARCHELAUS, the son of Herod the Great, was declared king of Judea the second year after the birth of Christ. He put to death 3000 persons before he went to Rome to be confirmed by Augustus. However, that emperor gave him half of what had been possessed by his father; but at length, on fresh complaints exhibited against him by the Jews, he banished him to Vienne in Gaul, A. D. 6. where he died.

ARCHELAUS, the son of Apollonius, one of the greatest sculptors of antiquity, was a native of Ionia, and is thought to have lived in the time of the emperor Claudius. He executed, in marble, the apotheosis of Homer. This masterpiece in sculpture was found in 1568, in a place named *Fratocchia*, belonging to the princes of Colonna, where, it is said, the emperor Claudius had a pleasure house. Father Kircher, Cupert, Spanheim, and several other learned antiquaries, have given a description and explication of this work.

ARCHERS, a kind of militia or soldiery armed with bows and arrows. The word is formed of *arcus*, "a bow;" whence *arcuarius*, and even *arquis*, and *arquites*, as they are also denominated in the corrupt state of the Latin tongue.

Archers were much employed in former times; but they are now laid aside, excepting in Turkey and some of the eastern countries; where there are companies of archers still subsisting in their armies, and with which they did terrible execution at the battle of Lepanto.—As an exercise, the practice of archery is still kept up in many places. See the article ARCHERY.

In France, the officers who attend the lieutenants de police and provosts to make captures, seizures, arrests, &c. are called *archers*; though their arms be only halberds or carabines. In this sense they say, the *archers* of the *grand prevot de l'hotel*; of the *prevot des marchands*; the city *archers*; the *archers du guet*, or of the watch, &c.—Small parties of *archers*, called also *gens de marechaussée*, are continually patrolling on

the great roads, to secure them against robbers.—The carriages of Lyons, &c. are always escorted by a party of archers. To the diligence of these archers, or marshal's men, it is partly owing, that persons now travel in all parts of France in the utmost security; there being fewer robberies on the highway in that whole kingdom in a year than about London in a week.

ARCHERY, the art or exercise of shooting with a bow and arrow.

In most nations, the bow was anciently the principal implement of war; and by the expertness of the archers alone was often decided the fate of battles and of empires.—In this island archery was greatly encouraged in former times, and many statutes were made for the regulation thereof; whence it was that the English archers in particular became the best in Europe, and procured them many signal victories.

The *Artillery Company* of London, though they have long disused the weapon, are the remains of the ancient fraternity of bowmen or archers. *Artillerie* (*artillerie*) is a French term signifying *archery*; as the *king's bowyer* is in that language styled *artillier du roy*: And from that nation the English seem to have learnt at least the cross-bow archery. We therefore find that William the Conqueror had a considerable number of bowmen in his army at the battle of Hastings, when no mention is made of such troops on the side of Harold: And it is supposed that these Norman archers shot with the arbalest (or cross-bow), in which formerly the arrow was placed in a groove, being termed in French a *quadrel*, and in English a *bolt*.

Of the time when shooting with the long bow first began among the English, at which exercise they afterwards became so expert, there appear no certain accounts. Their chroniclers do not mention the use of archery as expressly applied to the cross bow, or the long bow, till the death of Richard I. who was killed by an arrow at the siege of Limoges in Guienne, which Hemmingford mentions to have issued from a cross bow.—After this, which happened in 1199, there appear not upon record any notices of archery for nearly 150 years, when an order was issued by Edward III. in the 15th year of his reign, to the sherives of most of the English counties for providing 500 white bows and 500 bundles of arrows, for the then intended war against France. Similar orders are repeated in the following years; with this difference only, that the sheriff of Gloucestershire is directed to furnish 500 painted bows as well as the same number of white. The famous battle of Cressy was fought four years afterwards, in which our chroniclers state that we had 2000 archers, who were opposed to about the same number of the French, together with a circumstance which seems to prove, that by this time we used the long bow, whilst the French archers shot with the arbalest. The circumstance alluded to is as follows: Previously to the engagement there fell a very heavy rain, which is said to have much damaged the bows of the French, or perhaps rather the strings of them. Now the long bow (when unstrung) may be most conveniently covered, so as to prevent the rain's injuring it; nor is there scarcely any addition to the weight from a case; whereas the arbalest is of a most inconvenient form to be sheltered from the weather. As therefore, in the year 1342, orders were issued to the sherives of each county

Archery.

Archæologia, vol. vii.



Archery. county to provide 500 bows, with a proper proportion of arrows, it seems probable that these were long bows, and not the arbalest.

At the above-mentioned battle, the English ascribed their victory chiefly to the archers.—The battle of Poitiers was fought A. D. 1356, and gained by the same means.

Sometimes the archers gained great victories without even the least assistance from the men at arms; as particularly, the decisive victory over the Scots at Homildon, A. D. 1402. In that bloody battle, the men-at-arms did not strike a stroke, but were mere spectators of the valour and victory of the archers. The earl of Douglas, who commanded the Scotch army in that action, enraged to see his men falling thick around him by showers of arrows, and trusting to the goodness of his armour (which had been three years in making), accompanied by about eighty lords, knights, and gentlemen, in complete armour, rushed forward, and attacked the English archers sword-in-hand. But he soon had reason to repent his rashness. The English arrows were so sharp and strong, and discharged with so much force, that no armour could repel them. The earl of Douglas, after receiving five wounds, was made prisoner; and all his brave companions were either killed or taken. Philip de Comines acknowledges, what our own writers assert, that the English archers excelled those of every other nation; and Sir John Fortescue says again and again,—“that the might of the realm of England standyth upon archers.” The superior dexterity of their archers gave the English a great advantage over their capital enemies the French and Scots. The French depended chiefly on their men-at-arms, and the Scots on their pikemen; but the ranks of both were often thinned and thrown into disorder by flights of arrows before they could reach their enemies.

James I. of Scotland, who had seen and admired the dexterity of the English archers, and who was himself an excellent archer, endeavoured to revive the exercise of archery among his own subjects, by whom it had been too much neglected. With this view, he ridiculed their awkward manner of handling their bows, in his humorous poem, of Christ's Kirk on the Green; and procured the following law to be made in his first parliament, A. D. 1424, immediately after his return to Scotland: “That all men might busk thame to be archeres fra the be 12 years of age; and that ilk ten pundis worth of land thair be made bow markes, and specialle near parochie kirks, quhairn upon halie dayis men may cum, and at the leist schute thryfe about, and have usage of archarie; and wha sa usis not archarie, the laird of the land sal rais of him a wedder; and gif the laird raisis not the said pane, the king's shiref, or his ministers, sall rais it to the king.” But the untimely death of that excellent prince prevented the effectual execution of this law.

There is not found any act of parliament of Henry V. in relation to archery, and all the orders in Rymer till the battle of Agincourt relate to great guns, from which he seems at first to have expected more considerable advantage than from the training of bowmen. It should seem, however, that this sort of artillery, from its unwieldiness, bad and narrow roads, together with other defects, was as yet but of little use in mili-

tary operations. In the year 1417 this king therefore ascribes his victory at Agincourt to the archers, and directs the sherives of many counties to pluck from every goose six wing-feathers for the purpose of improving arrows, which are to be paid for by the king.

In 1421, though the French had been defeated both at Cressly, Poitiers, and Agincourt, by the English archers, yet they still continued the use of the cross bow; for which reason, Henry V. as duke of Normandy, confirms the charters and privileges of the ballistarii, who had been long established as a fraternity in his city of Rouen.

In the fifth of Edward IV. an act passed, that every Englishman, and Irishman dwelling with Englishmen, shall have an English bow of his own height, which is directed to be made of yew, wych, hazel, ath, or awburne, or any other reasonable tree according to their power. The next chapter also directs that butts shall be made in every township, which the inhabitants are obliged to shoot up and down every feast day, under the penalty of a halfpenny when they shall omit this exercise.

In the 14th year, however, of this same king, it appears by Rymer's *Fœdera*, that 1000 archers were to be sent to the duke of Burgundy, whose pay is settled at sixpence a day, which was a considerable sum in these times, when the value of money was so much higher than it is at present. This circumstance seems to prove, very strongly, the great estimation in which archers were still held. In the same year, Edward, preparing for a war with France, directs the sherives to procure bows and arrows, “as most specially requisite and necessary.”

On the war taking place with Scotland, eight years after this, Edward provides both ordnance and archers; so that though the use of *artillery* (as we now term it) was then gaining ground, yet that of the bow and arrow was not neglected.

Richard III. by his attention to archery, was able to send 1000 bowmen to the duke of Bretagne, and he availed himself of the same troops at the battle of Bosworth.

During the reign of Henry VII. however, there appears no order relative to gunpowder or artillery; whilst on the other hand, in 1488, he directs a large levy of archers to be sent to Brittany, and that they shall be reviewed before they embark. In the 19th year of his reign, this same king forbids the use of the cross bow, because “the long bow had been much used in this realm, whereby honour and victory had been gotten against outward enemies, the realm greatly defended, and much more the dread of all Christian princes by reason of the same.”

During the reign of Henry VIII. several statutes were made for the promotion of archery. The 8th Eliz. c. 10. regulates the price of bows, and the 13th Eliz. c. 14. enacts, that bow staves shall be brought into the realm from the Hanse towns and the Eastward; so that archery still continued to be an object of attention in the legislature.

In Rymer's *Fœdera* there is neither statute or proclamation of James I. on this head; but it appears by Dr Birch's life of his son (Prince Henry), that at eight years of age, he learned to shoot both with the



Archery.

bow and gun, whilst at the same time this prince had in his establishment an officer who was styled *bow-bearer*. The king granted a second charter to the Artillery Company, by which the powers they had received from Henry VIII. were considerably extended.

Charles I. appears, from the dedication of a treatise entitled *The Bowman's Glory*, to have been himself an archer; and in the eighth year of his reign he issued a commission to the chancellor, lord mayor, and several of the privy council, to prevent the fields near London being so enclosed as "to interrupt the necessary and profitable exercise of shooting," as also to lower the mounds where they prevented the view from one mark to another.

Catharine of Portugal (queen to Charles II.) seems to have been much pleased with the sight at least of this exercise; for in 1676, by the contributions of Sir Edward Hungerford and others, a silver badge for the marshal of the fraternity was made, weighing 25 ounces, and representing an archer drawing the long bow (in the proper manner) to his ear, with the following inscription: *Reginæ Catherinæ Sagittarii*. The supporters are two bowmen, with the arms of England and Portugal. In 1682 there was a most magnificent cavalcade and entertainment given by the Finsbury archers, when they bestowed the titles of "duke of Shore-ditch," "marquis of Islington," &c. upon the most deserving. Charles II. was present upon this occasion; but the day being rainy, he was obliged soon to leave the field.

So lately as the year 1753 targets were erected in the Finsbury fields, during the Easter and Whitsun holidays; when the best shooter was styled Captain for the ensuing year, and the second Lieutenant.

Why this military weapon was so decisive in the battles of former days, the following reasons may be suggested.

Before the introduction of fire arms the enemy could only be struck at a distance by slings, the bow used by the ancients, or the cross bow; to all which the English long bow was infinitely superior. As for slings, they never have been used in the more northern parts of Europe by armies in the field; nor does their use indeed seem to have been at all convenient or extensively practicable, for two principal reasons: In the first place, slingers cannot advance in a compact body, on account of the space to be occupied by this weapon in its rotatory motion; in the next place, the weight of the stones to be carried must necessarily impede the slingers greatly in their movements. The bow of the ancients again, as represented in all their reliefs, was a mere toy compared with that of our ancestors; it was therefore chiefly used by the Parthians, whose attacks (like those of the present Arabs) were desultory. As for the cross bow, it is of a most inconvenient form for carriage, even with the modern improvements; and, in case of rain, could not be easily secured from the weather. After the first shot, moreover, it could not be recharged under a considerable time, whilst the bolts were also heavy and cumbersome. The English long bow, on the other hand, together with the quiver of arrows, was easily carried by the archer, as easily secured from the rain, and recharged almost instantaneously. It is not therefore extraordinary, that troops, who solely used this most effectual weapon, should generally ob-

tain the victory, even when opposed to much more numerous armies.

It may be urged, that these losses having been experienced by our enemies, must have induced them to practise the same mode of warfare.—But it is thought that the long bow was not commonly used even in England till the time of Edward III. when the victory at Cressly sufficiently proclaimed the superiority of that weapon. It required, however, so much training before the archer could be expert, that we must not be surprised if soon afterwards this military exercise was much neglected, as appears by the preambles of several ancient statutes. Whilst the military tenures subsisted, the sovereign could only call upon his tenants during war, who therefore attended with the weapons they had been used to, and which required no previous practice. On the other hand, the English archers were obliged by acts of parliament, even in time of peace, to erect butts in every parish, and to shoot on every Sunday and holiday, after repairing perhaps to these butts from a considerable distance, whilst the expence of at least a yew bow is represented as being a charge which they were scarcely equal to. The king and parliaments of this country having thus compelled the inhabitants to such training, the English armies had (it should seem) the same advantage over their enemies as the exclusive use of fire-arms would give us at present.

It appears also, by what hath been already stated, that the long bow continued to be in estimation for more than two centuries after gunpowder was introduced, which probably arose from muskets being very cumbersome and unwieldy. It is well known that rapid movements are generally decisive of the campaign; and for such the archers were particularly adapted, because, as they could not be annoyed at the same distance by the weapons of the enemy, they had scarcely any occasion for armour. The flower of ancient armies likewise was the cavalry, against which the long bow never failed to prevail, as man and horse were too large objects to be missed: and hence the great number of French nobility who were prisoners at Cressly, Poitiers, and Agincourt; for being dismounted (if not wounded) whilst they were also clad in heavy armour, they could not make their escape. The same reason accounts for the English obtaining these signal victories with so inferior numbers; for the nobility and gentry thus becoming prisoners, the other parts of the French army made little or no resistance. No wonder, therefore, that in England the greatest anxiety was shown to promote the exercise of this most important weapon, and that so many statutes were made for that purpose.

In Scotland, also, little less attention, though apparently not with equal success, was shown to the encouragement of the art. In both kingdoms, it was provided, that the importers of merchandise should be obliged, along with their articles of commerce, to import a certain proportion of bows, bow staves, and shafts for arrows. In both, every person was enjoined to hold himself provided in bows and arrows, and was prescribed the frequent use of archery. In both, a restraint was imposed upon the exercise of other games and sports, lest they should interfere with the use of the bow; for it was intended, that people should

be



Archery. be made expert in the use of it as a military weapon, by habituating them to the familiar exercise of it as an instrument of amusement. As there was no material difference between the activity and bodily strength of the two people, it might be supposed that the English and Scots wielded the bow with no unequal vigour and dexterity: but from undoubted historical monuments it appears that the former had the superiority; of which one instance has been already narrated. By the regulations prescribed in their statute book for the practice of archery, we find that the English shot a very long bow, those who were arrived at their full growth and maturity being prohibited from shooting at any mark that was not distant upwards of 220 yards.

In the use of the bow, great dexterity as well as strength seems to have been requisite. Though we hear of arrows at Cheviot Chase which were a yard long, yet it is by no means to be supposed that the whole band made use of such, or could draw them to the head. The regulation of the Irish statute of Edward IV. viz. that the bow shall not exceed the height of the man, is allowed by archers to have been well considered; and as the arrow should be half the length of the bow, this would give an arrow of a yard in length to those only who were six feet high. A strong man of this size in the present times cannot easily draw above 27 inches, if the bow is of a proper strength to do execution at a considerable distance. At the same time it must be admitted, that as our ancestors were obliged by some of the old statutes to begin shooting with the long bow at the age of seven, they might have acquired a greater slight in this exercise than their descendants, though the latter should be allowed to be of equal strength.

As the shooting with the long bow was first introduced in England, and practised almost exclusively for nearly two centuries, so it hath occasioned a peculiar method of drawing the arrow to the ear and not to the breast. That this is contrary to the usage of the ancients is very clear from their reliefs, and from the tradition of the Amazons cutting off one of their paps as it occasioned an impediment to their shooting. The Finsbury archer is therefore represented in this attitude of drawing to the ear, both in the *Bowman's Glory*, and in the silver badge given by Catharine to the Artillery Company. Not many years ago there was a man named Topham, who exhibited surprising feats of strength, and who happened to be at a public house near Islington, to which the Finsbury archers resorted after their exercise. Topham considered the long bow as a plaything, only fit for a child; upon which one of the archers laid him a bowl of punch, that he could not draw the arrow two-thirds of its length. Topham accepted this bet with the greatest confidence of winning; but bringing the arrow to his breast instead of his ear, he was greatly mortified by paying the wager, after many fruitless efforts.

As to the distance to which an arrow can be shot from a long bow with the best elevation of 45 degrees, that must necessarily depend much both upon the strength and slight of the archer; but in general the distance was reckoned from eleven to twelve score yards. The butts for exercise, as above noticed, were directed to be distant upwards of 220 yards. There is indeed a tradition, that an attorney of Wigan in Lan-

cashire (named Leigh) shot a mile in three flights; Archery. but the same tradition states, that he placed himself in a very particular attitude, which cannot be used commonly in this exercise. According to Neade, an archer might shoot six arrows in the time of charging and discharging one musket.

The archers consider an arrow of from 20 to 24 drop weight to be the best for flight or hitting a mark at a considerable distance, and that yew is the best material of which they can be made. As to the feathers, that of a goose is preferred; it is also wished, that the bird should be two or three years old, and that the feather may drop of itself. Two out of three feathers in an arrow are commonly white, being plucked from the gander; but the third is generally brown or gray, being taken from the goose; and, from this difference in point of colour, informs the archer when the arrow is properly placed. From this most distinguished part therefore the whole arrow sometimes receives its name: And this, by-the-by, affords an explanation of the gray goose wing in the ballad of Cheviot Chase. Arrows were armed anciently with flint or metal heads, latterly with heads of iron; of these there were various forms and denominations. By an act of parliament made the 7th of Henry IV. it was enacted, That for the future all the heads for arrows and quarrels should be well boiled or braised, and hardened at the points with steel; and that every arrow head or quarrel should have the mark of the maker; workmen disobeying this order, were to be fined and imprisoned at the king's will, and the arrow heads or quarrels to be forfeited to the crown.

Arrows were reckoned by sheaves, a sheaf consisting of 24 arrows. They were carried in a quiver, called also an *arrow case*, which served for the magazine; arrows for immediate use were worn in the girdle. In ancient times phials of quicklime, or rather combustible matter, for burning houses or ships, were fixed on the heads of arrows, and shot from long bows. This has been also practised since the use of gunpowder. Neade says, he has known by experience, that an archer may shoot an ounce of firework upon an arrow 12 score yards. Arrows with wildfire, and arrows for fireworks, are mentioned among the stores at Newhaven and Berwick, in the 1st of Edward VI.

The force with which an arrow strikes an object at a moderate distance, may be conceived from the account given by King Edward VI. in his journal; wherein he says, that 100 archers of his guard shot before him two arrows each, and afterwards all together; and that they shot at an inch board, which some pierced quite through and struck into the other board; divers pierced it quite through with the heads of their arrows, the boards being well-seasoned timber; their distance from the mark is not mentioned.

To protect our archers from the attacks of the enemy's horse, they carried long stakes pointed at both ends: these they planted in the earth, sloping before them. In the 1st of Edward VI. 350 of these were in the stores of the town of Berwick, under the article of archers stakes; there were also at the same time eight bundles of archers stakes in Pontefract castle.

To prevent the bowstring from striking the left arm,



Archery. arm, the arm is covered with a piece of smooth leather, fastened on the outside of the arm; this is called a *bracer*; and to guard the fingers from being cut by the bowstring, archers wore shooting gloves. Chaucer in his prologue to the *Canterbury Tales*, thus describes an archer of his day:

And he was clade in cote and hode of grene,  
 A sheaf of peacock arwes bright and keen,  
 Under his belt he bare full thriftily:  
 Wel coude he dresse his takel yewmanly,  
 His arwes drouped not with fetheres lowe,  
 And in his hand he bare a mighty bowe,  
 A not hed hadde he, with broune visage,  
 Of wood craft coude he wel all the usage;  
 Upon his arms he had a gai bracer,  
 And by his side a swerd and a bokeler,  
 And on the other side a gaie daggere  
 Harnesed wel, and sharp as pointe of spere:  
 A cristofre on his breast of silver shene,  
 A horn he bare, the baudrik was of grene,  
 A forester was he sothely as I gesse.

Though archery continued to be encouraged by the king and legislature for more than two centuries after the first knowledge of the effects of gunpowder, yet by the latter end of the reign of Henry VIII. it seems to have been partly considered as a pastime. Arthur, the elder brother of Henry, is said to have been fond of this exercise, inasmuch that a good shooter was styled Prince Arthur. We are also informed, that he pitched his tent at Mile End in order to be present at this recreation, and that Henry his brother also attended. When the latter afterwards became king, he gave a prize at Windsor to those who should excel in this exercise; and a capital shot having been made, Henry said to Barlow (one of his guards), "If you still win, you shall be duke over all archers." Barlow therefore having succeeded, and living in Shoreditch, was created duke thereof. Upon another occasion, Henry and the queen were met by 200 archers on Shooter's hill, which probably took its name from their assembling near it to shoot at marks. This king likewise gave the first charter to the Artillery Company in the 29th year of his reign, by which they are permitted to wear dresses of any colour except purple and scarlet, to shoot not only at marks but birds, if not pheasants or herons, and within two miles of the royal palaces. They are also enjoined by the same charter not to wear furs of a greater price than those of the martin. The most material privilege, however, is, that of indemnification from murder, if any person passing between the shooter and the mark is killed, provided the archers have first called out *fast*.

The following description of an archer, his bow, and accoutrements, is given in a MS. written in the time of Queen Elizabeth. "Captains and officers should be skilful of that most noble weapon, and to see that their soldiers according to their draught and strength have good bowes, well nocked, well strynged, everie stryng whippe in their nocke, and in the myddes rubbed with wax, brafer and shuting glove, some spare strynges trymed as aforesaid, every man one shefe of arrows, with a case of leather defensible against the rayne, and in the same fower and twentie arrowes, whereof eight of them should be lighter than the residue, to

Archery. gall or afoyne the enemy with the hailshot of light arrows, before they shall come within the danger of their harquebuss shot. Let every man have a brigandine, or a little cote of plate, a skull or hufkyn, a mawle of leade of five foote in lengthe, and a pike, and the same hanging by his girdle, with a hook and a dagger; being thus furnished, teach them by musters to marche, shoote, and retire, keepinge their faces upon the enemy's. Sumtyme put them into great nowmbers, as to battell apparteyneth, and thus use them often times practised, till they be perfecte; ffor those men in battell ne skirmish can not be spared. None other weapone maye compare with the same noble weapon."

The long bow, as already observed, maintained its place in our armies long after the invention of fire arms. Nor have there been wanting experienced soldiers who were advocates for its continuance, and who in many cases even preferred it to the harquebuss or musket. King Charles I. twice granted special commissions under the great seal for enforcing the use of the long bow. The first was in the 4th year of his reign: but this was revoked by proclamation four years afterwards, on account of divers extortions and abuses committed under sanction thereof. The second, anno 1633, in the 9th year of his reign, to William Neade and his son, also named William, wherein the former is styled an ancient archer, who had presented to the king a warlike invention for uniting the use of the pike and bow, seen and approved by him and his council of war; wherefore his majesty had granted them a commission to teach and exercise his loving subjects in the said invention, which he particularly recommended the chief officers of his trained bands to learn and practise; and the justices and other chief magistrates throughout England, are therein enjoined to use every means in their power to assist Neade, his son, and all persons authorized by them in the furtherance, propagation, and practice of this useful invention. Both the commissions and proclamation are printed at large in Rymer. At the breaking out of the civil war, the earl of Essex issued a precept, dated in November 1643, for stirring up all well affected people by benevolence, towards the raising a company of archers for the service of the king and parliament.

Archery with the long bow continues to be used as a manly exercise by the inhabitants of Geneva, and in many parts of Flanders; nor is it totally neglected in Great Britain. There are several societies of archers in England; the chief of which are, the *Woodmen of Arden*, and the *Toxophilite*. But the most noted society of this kind, now existing, is

The *Royal Company of Archers* in Scotland.—The ancient records of this Company having been destroyed by fire about the beginning of the present century, no authentic traces of their institution now remain. It is said that they owe their origin to the commissioners appointed in the reign of James I. of Scotland for enforcing and overseeing the exercise of archery in different counties. Those commissioners, who were in general men of rank and power, picking out amongst the better sort of people under their cognizance the most expert archers, formed them into a company, and upon perilous occasions made a present of their services to the king as his chief body guards; in which situation



Archery. tion they often distinguished themselves for their loyalty, their courage, and skill in archery. This rank of the king's principal body guards the Royal Company still claim, within seven miles of the metropolis of Scotland.

Certain it is, that by an act of the privy council of Scotland, in 1677, this Company was recognized under the name and title of "His Majesty's Company of Archers:" and by the same act a piece of plate of the value of 20l. sterling was ordered to be given to be shot for by them at their annual parades, called *WEAPON-shawings*, and to be called *The King's Prize*.

At this period the Royal Company consisted, as it does at present, of the principal nobility and gentry of Scotland. But their unfortunate attachment to anti-revolution principles, upon that event's taking place, put almost a period to their existence: Their public parades or marches were discontinued, and the royal prize was withheld.

Upon the accession of Queen Anne, their former splendour was revived; and in the year 1703 they obtained a royal charter, confirming in general terms all their former rights and privileges, and conferring others upon them. But their partiality to the family of Stuart was at various after-periods the cause of a temporary prosperity and decline.

These unhappy differences of opinion having totally subsided, the Royal Company are now more numerous and flourishing than ever, and perhaps even more dexterous archers. His present majesty, as a mark of his royal patronage and approbation, has been pleased to revive the royal prize, which for the first time was shot for upon the 28th of July 1788 by a numerous and respectable meeting.

The Woodmen of Arden and the Toxophilite have lately been pleased to admit the members of the Royal Company to the freedom of their societies: these grants have been followed by reciprocal diplomas from the Royal Company; so that the three chief societies of archers in Britain may be said to be now incorporated into one.

The prizes belonging to this Company, and which are annually shot for, are, 1. A silver arrow, given by the town of Musselburgh, which appears to have been shot for as early as the year 1603. The victor in this, as in the other prizes, except the king's prize, has the custody of it for a year, then returns it with a medal appended, on which are engraved any motto and device which the gainer's fancy dictates. 2. A silver arrow given by the town of Peebles, A. D. 1626. 3. A silver arrow given by the city of Edinburgh, A. D. 1709. 4. A silver punch bowl of about the value of 50l. made of Scottish silver at the expence of the Company, A. D. 1720. And, 5. The king's prize above mentioned, which becomes the absolute property of the winner. All these prizes are shot for at what is termed *Rovers*, the marks being placed at the distance of 185 yards.

Besides these, there is another prize annually contended for at butt or point-blank distance, called the *Goose*. The ancient manner of shooting for this prize was, a living goose was built in a turf butt, having the head only exposed to view; and the archer who first hit the goose's head was entitled to the goose as his reward. But this custom, on account of its bar-

barity, has been long ago laid aside; and in place of the goose head, a mark of about an inch diameter is affixed upon each butt, and the archer who first hits this mark is captain of the butt shooters for a year.

The affairs of the Company are managed by a preses and six counsellors, who are chosen annually by the whole members. The council are vested with the power of receiving or rejecting candidates for admission, and of appointing the Company's officers civil and military.

The Royal Company now consists of above 1000 members, among whom are most of the Scottish nobility of the first distinction. A number of the Company meet weekly during the summer season at Edinburgh, in the Meadows, where they exercise themselves in shooting at butts or rovers: And in the adjoining ground they have a handsome building, erected within these 12 years, with suitable offices, whither they adjourn after their exercise, and where they hold their elections and other meetings relative to the business of the society.

The uniform of the Royal Company of Archers is tartan, lined with white, and trimmed with green and white fringes; a white sash, with green tassels; and a blue bonnet, with a St Andrew's cross and feathers. The Company have two standards. The first of these bears on one side Mars and Cupid encircled in a wreath of thistles; with this motto, "*In peace and war.*" On the other, a yew tree, with two men dressed and equipped as archers, encircled as the former; motto, *Dat gloria vires*. The other standard displays, on one side, a lion rampant gules, on a field or, encircled with a wreath; on the top, a thistle and crown; motto, *Nemo me impune laceffet*. On the other, St Andrew on the cross, on a field argent; at the top, a crown; motto, *Dulce pro patria periculum*.

ARCHES COURT, in English ecclesiastical polity, is a court of appeal, belonging to the archbishop of each province; whereof the judge is called the *dean of the arches*, because he anciently held his court in the church of St Mary le bow (*Sancta Maria de arcubus*), though all the principal spiritual courts are now holden at Doctors Commons. His proper jurisdiction is only over the 13 peculiar parishes belonging to the archbishop in London, but the office of dean of the arches having been for a long time united with that of the archbishop's principal office, he now, in right of the last-mentioned office, receives and determines appeals from the sentences of all inferior ecclesiastical courts within the province. And from him there lies an appeal to the king in chancery (that is, to a court of delegates appointed under the king's great seal), by statute 25th Hen. VIII. c. 19. as supreme head of the English church, in the place of the bishop of Rome, who formerly exercised this jurisdiction; which circumstance alone will furnish the reason why the Popish clergy were so anxious to separate the spiritual court from the temporal.

ARCHETYPE, the first model of a work, which is copied after to make another like it. Among minters, it is used for the standard weight by which the others are adjusted. The archetypal world, among Platonists, means the world as it existed in the idea of God before the visible creation.

ARCHEUS, from ἀρχη, the principal, chief, or first

Archery  
||  
Archeus.



Archiacolythus  
||  
Archil.

first mover); a sort of primum mobile set up by Helmont, to superintend the animal economy, and preserve it. It is akin to Plato's *anima mundi*. Hippocrates uses the words *αρχαιον φυσικον*, to signify the former healthy state before the attack of the disease.

ARCHIACOLYTHUS (from *αρχος*, chief, and *ακολυθος*, minister), an ancient dignity in cathedral churches: the ministers whereof were divided into four orders or degrees, viz. priests, deacons, subdeacons, and acolythi: each of which had their chiefs. The chief of the acolythi was called *archiacolythus*.

ARCHIATER, ARCHIATRUS, properly denotes chief physician of a prince who retains several. The word is formed of *αρχη*, principium, "chief;" and *ιατρος*, medicus, a "physician."

ARCHIDAPIFER, (from *αρχος*, and *δαπιφερ*, "sewer,") or chief sewer, is a great officer of the empire. The elector of Bavaria is archidapifer. The palatine of the Rhine at one time pretended this office was annexed to his palatinate; but he has since desisted.

ARCHIEROSYNES, in the *Grecian Antiquity*, a high priest vested with authority over the rest of the priests, and appointed to execute the more sacred and mysterious rites of religion.

ARCHIGALLUS, in *Antiquity*, the high priest of Cybele, or the chief of the eunuch priests of that goddess, called *Galli*.

ARCHIGERONTES (from *αρχος*, and *γερον*, old), in *Antiquity*, the chiefs or masters of the several companies of artificers at Alexandria. Some have mistaken the archigerontes for the arch-priests appointed to take the confessions of those who were condemned to the mines.

ARCHIGUBERNUS, ARCHIGUBERNETA, or ARCHIGUBERNITES, in *Antiquity*, the commander of the imperial ship, or that which the emperor was aboard of. Some have confounded the office of archigubernus with that of *praefectus classis*, or admiral, but the former was under the command of the latter. Potter takes the proper office of the archiguberneta to have been, to manage the marine affairs, to provide commodious harbours, and order all things relating to the sailing of the fleet, except what related to war.

ARCHIL, ARCHILLA, ROCELLA, ORSIELLE, is a whitish moss which grows upon rocks, in the Canary and Cape de Verd islands, and yields a rich purple tincture, fugitive indeed, but extremely beautiful. This weed is imported to us as it is gathered. Those who prepare it for the use of the dyer, grind it betwixt stones, so as to thoroughly bruise, but not to reduce it into powder; and then moisten it occasionally with a strong spirit of urine, or urine itself mixed with quicklime: in a few days it acquires a purplish red, and at length a blue colour. In the first state it is called *Archil*; in the latter, *Lacmus* or *Litmase*.

The dyers rarely employ this drug by itself, on account of its dearness and the perishableness of its beauty. The chief use they make of it is, for giving a bloom to other colours, as pinks, &c. This is effected by passing the dyed cloth or silk through hot water lightly impregnated with the archil. The bloom thus communicated soon decays upon exposure to the air. Mr Hellot informs us, that by the addition of a little solution of tin, this drug gives a durable dye;

that its colour is at the same time changed towards a scarlet; and that it is the more permanent in proportion as it recedes the more from its natural colour.

Prepared archil very readily gives out its colour to water, to volatile spirits, and to spirit of wine; it is the substance principally made use of for colouring the spirits of thermometers. As exposure to the air destroys its colour upon cloth, the exclusion of the air produces a like effect in these hermetically sealed tubes, the spirits of large thermometers becoming in the compass of a few years colourless. M. l'Abbé Nollet observes (in the French Memoirs for the year 1742), that the colourless spirit, upon breaking the tube, soon resumes its colour, and this for a number of times successively; that a watery tincture of archil, included in the tubes of thermometers, lost its colour in three days; and that, in an open deep vessel, it became colourless at the bottom, while the upper part retained its colour. See *COLOUR-Making*.

A solution of archil in water, applied on cold marble, stains it of a beautiful violet or purplish blue colour, far more durable than the colour which it communicates to other bodies. M. du Fay says he has seen pieces of marble stained with it, which in two years had suffered no sensible change. It sinks deep into the marble, sometimes above an inch; and at the same time spreads upon the surface, unless the edges be bounded by wax or other like substances. It seems to make the marble somewhat more brittle.

Linnæus informs us, in the Swedish Transactions for the year 1742, that the true archil moss is to be found on the western coasts of England.

ARCHILOCHIAN, a term in poetry, applied to a sort of verses, of which Archilochus was the inventor, consisting of seven feet; the four first whereof are ordinarily dactyls, though sometimes spondees; the three last trochees, as in Horace,

*Solvitur acris hyems, grata vice veris et Favoni,*

ARCHILOCHUS, a famous Greek poet and musician, was, according to Herodotus, cotemporary with Candaules and Gyges, kings of Lydia, who flourished about the 14th Olympiad, 724 years before Christ. But he is placed much later by modern chronologists; viz. by Blair 686, and by Priestley 660 years, before Christ.

He was born at Paros, one of the Cyclades. His father Telecles was of so high a rank, that he was chosen by his countrymen to consult the oracle at Delphos concerning the sending a colony to Thafos: a proof that he was of one of the most distinguished families upon the island. However, he is said to have sullied his birth by an ignoble marriage with a slave called *Empo*, of which alliance our poet musician was the fruit.

Though Archilochus showed an early genius and attachment to poetry and music, these arts did not prevent his going into the army, like other young men of his birth; but in the first engagement at which he was present, the young poet, like Horace, and like our own Suckling, lost his buckler, though he saved his life by the help of his heels. *It is much easier, said he, to get a new buckler than a new existence.* This pleasantry, however, did not save his reputation; nor could his poetry or prayers prevail upon Lycambes, the father

Archil  
||  
Archilochus.



Archilochus. of his mistress, to let him marry his daughter, though she had been long promised to him. After these mortifications, his life seems to have been one continued tissue of disgrace and resentment.

*Archilochum proprio rabies armavit iambo.*

HOR. ART. POET. 79.

Archilochus, with fierce resentment warm'd,  
Was with his own severe iambs arm'd. FRANCIS.

The *rage of Archilochus* was proverbial in antiquity; which compared the provoking this satirist to the treading upon a serpent: A comparison not very severe, if it be true that Lycambes, and, as some say, his three daughters, were so mortified by his satire, as to be driven to the consolation of a halter.

In this piece, many adventures are mentioned, full of defamation, and out of the knowledge of the public. There were likewise many loose passages in it; and it is said to have been on account of this satire that the Lacedemonians laid a prohibition on his

\*Val. Max. verles\*.

lib. 6. c. 3.

However, according to Plutarch, there is no bard of antiquity by whom the two arts of poetry and music have been so much advanced as by Archilochus. To him is attributed particularly the sudden transition from one rhythm to another of a different kind, and the manner of accompanying those irregular measures upon the lyre. Heroic poetry, in hexameter verse, seems to have been solely in use among the more ancient poets and musicians; and the transition from one rhythm to another, which lyric poetry required, was unknown to them; so that if Archilochus was the first author of this mixture, he might with propriety be styled the *Inventor of Lyric Poetry*, which, after his time, became a species of versification wholly distinct from heroic.—To him is likewise ascribed the invention of *Epodes*. See EPODE.

Our poet-musician is generally ranked among the first victors of the Pythic games: and we learn from Pindar, that his muse was not always a termagant; for though no mortal escaped her rage, yet she was at times sufficiently tranquil and pious to dictate hymns in praise of the gods and heroes. One in particular, written in honour of Hercules, acquired him the acclamations of all Greece; for he sung it in full assembly at the Olympic games, and had the satisfaction of receiving from the judges the crown of victory consecrated to real merit. This hymn, or ode, was afterwards sung in honour of every victor at Olympia, who had no poet to celebrate his particular exploits.

Archilochus was at last slain by one Callondax Corax, of the island of Naxos; who, though he did it in fight, according to the laws of war, was driven out of the temple of Delphi, by command of the oracle, for having deprived of life a man consecrated to the Muses.

The names of Homer and Archilochus were equally revered and celebrated in Greece, as the two most excellent poets which the nation had ever produced. This appears from an epigram in the *Anthologia*; and from Cicero, who ranks him with poets of the first class, and in his *Epistles* tells us, that the grammarian Aristophanes, the most rigid and scrupulous critic of his time,

used to say, that the longest poem of Archilochus always appeared to him the most excellent.

ARCHIMAGUS, the high priest of the Persian Magi or worshippers of fire. He resided in the highest fire temple; which was had in the same veneration with them as the temple of Mecca among the Mahometans. Zoroaster first settled it at Balch; but after the Mahometans had overrun Persia in the 7th century, the Archimagus was forced to remove from thence into Kerman, a province of Persia, lying on the southern ocean, where it hath continued to this day. Darius Hystaspes took upon himself the dignity of Archimagus: for Porphyry tells us, he ordered before his death, that, among the other titles, it should be engraven on his monument, that he had been *Master of the Magi*; which plainly implies that he had borne this office among them, for none but the Archimagus was master of the whole sect. From hence it seems to have proceeded, that the kings of Persia were ever after looked on to be of the sacerdotal tribe, and were always initiated into the sacred order of the Magi, before they took on them the crown, and were inaugurated into the kingdom.

ARCHIMANDRITE, in *Ecclesiastical History*, was a name given by the ancient Christians to what we now call an *abbot*. Father Simon observes, that the word *mandrite* is Syriac, and signifies a solitary monk.

ARCHIMEDES, one of the most eminent of the ancient mathematicians, was born at Syracuse in Sicily, about the year 280 before the Christian era. Hiero, king of Syracuse, deemed it an honour to have this philosopher for his relative and friend. History does not inform us, to whom he was indebted for the rudiments of literature, but he flourished about 50 years after Euclid. It is reported, that he was indebted to Egypt for much of his knowledge; but other accounts indicate, that he conferred more knowledge than he received from that celebrated nation; and, in particular, Diodorus mentions, that Egypt was indebted to him for the invention of the screw-pump, for drawing off water. And the same author narrates, that he was the inventor of several other useful machines, which conveyed his fame to every quarter of the globe. The following passage from Livy, proves, that he was dexterous both for the inventing warlike machines, and also for his accurate observation of the heavenly bodies, "Unicus spectator cæli siderumque, mirabilior tamen inventor ac machinator bellicorum tormentorum", &c. lib. xxiv. It appears also, that in Cicero's time, he had become proverbial for his skill in solving problem. In a letter to Atticus, he informs him, that he is now freed from a difficulty, which he termed an Archimedian problem, lib. xiii. ep. 28.

It may perhaps be impossible distinctly to ascertain the different inventions of this great man; but from the following passage, it appears that he formed a *glass sphere*, or some kind of *planetarium*, which, with no small degree of accuracy, represented the phenomena of the heavenly bodies. Hence says Claudian

*Jupiter, in parvo cum cerneret æthera vitro,  
Risit, et ad superos talia dicta dedit:*

Hucine

Archimagus  
||  
Archimedes.



Archimedes.

*Hucce mortalis progressa potentia curæ?  
Jam meus in fragile ludetur arce labor.  
Jura poli, rerumque fidem, legesque decorum,  
Ecce Syracosus transfudit arti senex.  
Inclusus variis famulatur spiritus astris,  
Et verum certis motibus urget opus.  
Percurrit proprium mentitus signifer annum,  
Et simulata novo Cynthia mense redit.  
Jamque suum volvens audax industria mundum  
Gaudet, et humana fidera mente regit.  
Quid falso infontem tonitru Salmea miror?  
Emula naturæ parva reperta manus.*

“When in a glass’s narrow sphere confin’d,  
Jove saw the fabric of th’ Almighty mind;  
He smil’d, and said, ‘Can mortals art alone  
Our heav’nly labours mimic with their own?  
The Syracusan’s brittle work contains  
Th’ eternal law that through all nature reigns.  
Fram’d by his art, see stars unnumber’d burn,  
And in their courses rolling orbs return;  
His sun, through various signs describe the year,  
And every month his mimic moons appear.  
Our rival’s laws his little planets bind,  
And rule their motions by a human mind:  
Salmeone could our thunder imitate;  
But Archimedes can a world create.”

In the following lines the same machine is mentioned by Ovid.

*Arte Syracosia suspensus in aëre clauso,  
Stat globus, immensi parva figura poli.*

OVID, Fast. vi. 277.

Vitruvius mentions a fact, which proves Archimedes’s knowledge in the doctrine of specific gravity. Hiero, the king, having given a certain quantity of gold wherewith to make a golden crown, and suspecting that the workmen had stolen part of the gold and substituted silver in its stead, he applied to Archimedes to employ his ingenuity in detecting the fraud. Ruminating upon this subject when he was bathing himself, he observed, that he dislodged a quantity of water, corresponding to the bulk of his own body; therefore, instantly quitting the bath with all the eagerness natural to an inventive mind upon a new discovery, he ran into the streets naked, crying, *Eureka! Eureka! I have found it out! I have found it out!* Then taking one mass of gold and another of silver, each equal in weight to the crown; he carefully observed the quantity of fluid which they alternately displaced, when introduced in the same vessel full of water. Next he ascertained how much water was displaced by the crown when put into the same vessel full of water; and, upon comparing the three quantities together, he ascertained the exact proportions of gold and silver, of which the crown was composed.

Archimedes was well acquainted with the mechanical powers. His celebrated saying with regard to the power of the lever has been often repeated, “Give me a place to stand upon, and I will move the earth.” In order to shew Hiero the effect of mechanical powers, it is said, that aided by ropes and pulleys, he drew towards him a galley, which lay on the shore manned and loaded: but the displays of his mechanical skill mentioned by Marcellus at the siege of Syra-

cuse, were long deemed almost incredible; until the after improvements in mechanics have demonstrated them practicable. He harassed the vessels of the besiegers, both when they approached and kept at a distance from the city. When they approached, he sunk them by means of long and huge beams of wood; or, by means of grappling hooks placed at the extremity of levers, he hoisted up the vessels into the air, and dashed them to pieces either against the walls or the rocks. When the enemy kept at a distance, he employed machines which threw from the walls such a quantity of stones, as shattered and destroyed their vessels. In short, his mechanical genius supplied strength and courage to the city, and filled the Romans with astonishment and terror. Until Buffon invented and framed a burning glass, composed of about 400 glass planes, capable of setting fire to wood at the distance of 200 feet, and of melting lead and tin at the distance of 120 feet, and silver at the distance of 50; the account of Archimedes’s instrument for burning ships at a great distance by means of the rays of the sun, was deemed fabulous and impossible.

But, however eminent for mechanical invention, he was still more eminent for the investigation of abstract truths; and the formation of conclusive demonstrations in the branches of pure geometry. Plutarch also mentions, that Archimedes himself esteemed mechanical invention greatly inferior in value to those speculations which convey irresistible conviction to the mind. His geometrical works afford numerous proofs of his success in this field of science. It is reported, that he was often so deeply engaged in mathematical speculations, as both to neglect his food and the care of his person; and at the bath he would sometimes draw geometrical figures in the ashes, and sometimes upon his own body when it was anointed, according to the custom of that time. He valued himself so much upon the discovery of the ratio between the sphere and the containing cylinder, that, indifferent to all his other inventions, he ordered his friends to engrave upon his tomb a cylinder containing a sphere, with an inscription explanatory of its nature and use.

It must be extremely painful to every humane mind, but particularly to every lover of philosophic merit, to learn, that when Syracuse was taken by storm, he, being ignorant of that fact, was run through the body, when engaged in drawing a geometrical figure upon the sand. As Marcellus had given express orders that both his person and his house should be held sacred; this appears to have happened through ignorance, and therefore removes a great part of the odium from the Roman name. This mournful event happened in the 142d Olympiad, or 212 years before the Christian era. Marcellus, in the midst of his triumphal laurels, lamented the death of Archimedes, conferred upon him an honourable burial, and took his surviving relations under his protection; but greater honour was conferred upon him when the philosopher of Arpinum, 140 years after, went in search of his long-neglected tomb. Hence, says Cicero, “I diligently sought to discover the sepulchre of Archimedes, which the Syracusans had totally neglected, and suffered to be overgrown with thorns and briars. Recollecting some verses, said to be inscribed on the tomb, which mentioned, that on the top was placed a sphere with a cylinder,

Archimedes.



Archimedes. looked round me upon every object at the Agrigentine gate, the common receptacle of the dead. At last I observed a little column which just rose above the thorns, upon which was placed the figure of a sphere and cylinder. "This, said I to the Syracusan nobles who were with me, This must, I think, be what I am seeking." Several persons were immediately employed to clear away the weeds, and lay open the spot. As soon as a passage was opened, we drew near, and found on the opposite base the inscription, with nearly half the latter part of the verses worn away. Thus would this most famous, and formerly most learned, city of Greece have remained a stranger to the tomb of one of its most ingenious citizens, had it not been discovered by a man of Arpinum."

Several works of this most celebrated mathematician have escaped the wreck of time. Of abstract Geometry we have a treatise "on the Sphere and Cylinder," another "on the Dimension of the Circle, or the Proportion between the Diameter and the Circumference; on Obtuse Conoids and Spheroids; on Spiral Lines; and on the Quadrature of the Parabola." Of his mechanics Archimedes has left a "Treatise on Equiponderants, or Centres of Gravity;" and in hydrostatics, a "Treatise concerning Bodies floating on Fluids;" and a Geometrical piece, entitled *Assumpta* or *Lemmata*. His other works are either lost or remain unpublished. (*Gen. Biog.*)

ARCHIPELAGO, in *Geography*, a general term signifying a sea interrupted with islands; it is however more especially applied to that lying between Europe and Asia, which contains the islands anciently called *Cyclades* and *Sporades*. See these two words.

ARCHIPHERACITÆ, ministers in the Jewish synagogues appointed to read and interpret the Perakim, or titles and heads of the law and the prophets.

ARCHPRESBYTER, or ARCH-PRIEST, a priest established in some dioceses with a superiority over the rest. He was anciently chosen out of the college of presbyters at the pleasure of the bishop. These arch-presbyters were of much the same nature with deans in the cathedral churches, as the college of presbyters answers to the chapter. See PRESBYTER.

ARCHISYNAGOGUS, the chief of the synagogue; the title of an officer among the Jews, who presided in their synagogues and assemblies. The number of these officers was not fixed, nor the same in all places; there being 70 in some, and in others only one. They are sometimes called *princes* of the synagogue, and had a power of excommunicating such as deserved that punishment.

ARCHITECT, a person skilled in architecture, or the art of building; who forms plans and designs for edifices, conducts the work, and directs the several artificers employed in it. The word is derived from *αρχος*, *princeps*, and *τεκτων*, *faber*, "workman;" q. d. the principal workman.

## ARCHITECTURE,

IN the utmost latitude of the word, signifies the art of building in general; but the term is most frequently applied only to the construction of such buildings as are necessary for the purposes of civil life, such as houses, churches, halls, bridges, porticos, &c.

### *History of Architecture.*

THE origin of this art, like that of most others, is totally unknown. We are assured, however, that it is as old as Cain: for Moses tells us that he built a city; though what were the materials, or how the buildings were constructed, we are entirely ignorant. It is commonly said, that the first materials employed in building were branches and twigs of trees, wherewith men constructed huts; such as the *wigwams* in use among the American Indians at present. This, however, appears disputable. The natural shelter afforded by hollows in the sides of mountains or rocks, it may be supposed, would much more readily suggest the idea of using stones and earth as materials for building houses. Indeed, considering that tents were not invented before the days of Jabal, Tubal Cain's brother, it is very probable that such temporary houses as the Indian wigwams were not originally known; otherwise the method of covering poles with the skins of beasts, instead of small branches or twigs, must very soon have taken place. These temporary houses seem to have come into use only when men began to lead an idle wandering

life, like the Tartars, and could not be at the trouble of constructing durable habitations in every place where they were obliged to wander with their cattle; and Jabal perhaps from them took the hint of making portable houses or tents. Accordingly we see, that no nations, except those who are in a perpetually unsettled state, make use of such wretched materials. Even in America, where the human race has appeared in the rudest form, they were no sooner collected into great bodies under the emperors of Mexico and Peru, than stone buildings began to be erected.

We are not, therefore, to look for the origin of architecture in any single nation; but in every nation, when the inhabitants began to leave off their savage way of life, and to become civilized; and if there is any nation to be found which hath been always in a civilized state, we may be assured that architecture hath always had an existence there. But whatever may be in this, the origin of regular buildings hath been deduced from the construction of the meanest huts in a very natural and plausible manner by several authors. "Anciently (says Vitruvius) men lived in woods, and inhabited caves; but in time, taking perhaps example from birds, who with great industry build their nests, they made themselves huts. At first they made these huts, very probably, of a conic figure; because that is a figure of the simplest structure; and, like the birds, whom they imitated, composed them of branches of trees, spreading them wide at the bottom, and joining

Materials first used in building.

Archi-  
lago  
||  
Architect.

Primitive  
huts.  
Plate  
XXXVII.  
fig. 1.



3  
Their im-  
provement.

Fig. 2.

ing them in a point at the top; covering the whole with reeds, leaves, and clay, to screen them from tempests and rain.

"But finding the conic figure inconvenient on account of its inclined sides, they changed both the form and construction of their huts, giving them a cubical figure, and building them in the following manner: Having marked out the space to be occupied by the hut, they fixed in the ground several upright trunks of trees to form the sides, filling the intervals between them with branches closely interwoven and covered with clay. The sides being thus completed, four large beams were placed on the upright trunks; which, being well joined at the angles, kept the sides firm, and likewise served to support the covering or roof of the building, composed of many joists, on which were laid several beds of reeds, leaves, and clay.

"Insensibly mankind improved in the art of building, and invented methods to make their huts lasting and handsome as well as convenient. They took off the bark, and other unevennesses, from the trunks of trees that formed the sides; raised them, probably above the dirt and humidity, on stones; and covered each of them with a flat stone or slate, to keep off the rain. The spaces between the ends of the joists were closed with clay, wax, or some other substance; and the ends of the joists covered with thin boards cut in the manner of triglyphs. The position of the roof was likewise altered: for being, on account of its flatness, unfit to throw off the rains that fell in great abundance during the winter season, they raised it in the middle; giving it the form of a gable roof, by placing rafters on the joists, to support the earth and other materials that composed the covering.

Fig. 3.

"From this simple construction the orders of architecture took their rise. For when buildings of wood were set aside, and men began to erect solid and stately edifices of stone, they imitated the parts which necessity had introduced into the primitive huts; inasmuch that the upright trees, with the stones at each end of them, were the origin of columns, bases, and capitals, and the beams, joists, rafters, and strata of materials that formed the covering, gave birth to architraves, frizes, triglyphs, and cornices, with the corona, the mutules, the modillions, and the dentils.

"The first buildings were in all likelihood rough and uncouth; as the men of those times had neither experience nor tools: but when, by long experience and reasoning upon it, the artists had established certain rules, had invented many instruments, and by great practice had acquired a facility in executing their ideas, they made quick advances towards perfection, and at length discovered certain manners of building, which succeeding ages have regarded with the highest veneration."

4  
State of ar-  
chitecture  
among the  
Egyptians.

Among the ancient Egyptians, Assyrians, and Persians, this art was carried to an incredible length. The pyramids of Egypt are such structures as would exceed the power of the most potent monarch on earth to raise at this day. The largest of these, according to the account of M. Goguet, is near 500 feet high, and contains 313,590 solid fathoms. It is composed of stones enormously large; many of them being 30 feet long, four feet high, and three in breadth; and all this huge mass of building was coated over with

square flags of marble.—The structure called the *labyrinth*, in the same country, according to Herodotus, who saw it, excelled every thing which he could have conceived from the imagination either of himself or others. Within the same circuit of walls they had enclosed 3000 halls, 12 of which were of a singular form and beauty; and of these, half were above, and half below ground; and the whole was terminated by a pyramid 40 fathoms high. All this prodigious mass of building was composed of white marble, and the walls were adorned with engravings.—The obelisks were not less astonishing; the largest of them being entire pieces of granite, no less than 180 feet high.—Near Andera, in Upper Egypt are the ruins of a palace of gray granite, the ceilings of which are supported by columns of such thickness, that four men can scarcely fathom them. The ceilings themselves are composed of stones of the same kind, six or seven feet in breadth and 18 feet in length. The grand hall is 112 feet long, 60 high, and 58 broad. The roof of the whole edifice is a terrace, on which the Arabs formerly built a very large village, the ruins of which are still visible.

Among the Babylonians and Persians, too, such immense piles of building have been raised, as appear utterly inconceivable and incredible to many modern authors where their former grandeur is not demonstrable by ruins visible at this day. The ruins of Persepolis, the ancient capital of Persia, were so stupendous in the time of Avicenna the Arab physician, that his countrymen could not believe such structures possible to be erected but by evil spirits. Of their extraordinary magnificence, indeed, we may have some idea from the account of the staircases belonging to the palace. The remains, some time ago, consisted of 95 steps of white marble, so broad and flat, that 12 horses might conveniently go up abreast.

In these vast structures, however, the nations of whom we speak seem to have regarded the greatness, rather than the elegance or usefulness of their works. In the pyramids and obelisks of Egypt this is exceedingly conspicuous; but whether it was so in the labyrinth or in the palace at Thebes above mentioned, it is impossible to determine, unless the buildings were entire, and we knew for what purpose they had been designed. If the kings who built the pyramids designed to immortalize their memories by building, they certainly could not have fallen upon any thing more proper for this purpose; though even in this they have somehow or other failed, the names of those who erected them not being certainly known even in the time of Herodotus. It is certain, however, that neither the ancient Assyrians nor Babylonians knew the method of constructing arches. The roofs of all their halls were flat, and covered with prodigiously large stones, some of them so big as to cover a whole room singly. Their manner of building was also quite destitute of what is now called *taste*; the columns were ill proportioned, and their capitals executed in the poorest manner imaginable. This was observed by the Greeks, who improved upon the proportions formerly used, and were the inventors of three of the five orders of architecture, viz. the Doric, Ionic, and Corinthian.

"Anciently (says Vitruvius) they were ignorant of the art of proportioning the various parts of a building: they used columns; but they cut them at hazard, without rules, without

5  
Among the  
Babyloni-  
ans and  
Persians.

6  
Their  
buildings  
more re-  
markable  
for great-  
ness than  
elegance.

7  
Ignorant of  
the use of  
arches,

8  
and of pro-  
portioning  
columns.



without principles, and without having any attention to the proportions which they ought to give them: they placed them likewise without any regard to the other parts of the edifice. Dorus, son of Helen and grandson of Deucalion, having caused a temple to be built at Argos in honour of Juno, that edifice was found by chance to be constructed according to the taste and proportions of the order which afterwards they called *Doric*. The form of this building having appeared agreeable, they conformed to it for the construction of edifices which they afterwards had to build.

“About the same time, the Athenians sent into Asia a colony under the conduct of Ion, nephew of Dorus: this undertaking had very good success. Ion seized on Caria, and there founded many cities: these new inhabitants thought to build temples. They proposed for a model that of Juno at Argos; but, ignorant of the proportion which they ought to give to the columns, and in general to the whole edifice, they fought for rules capable of regulating their operation. These people wanted, in making their columns sufficiently strong to support the whole edifice, to render them at the same time agreeable to the sight. For this purpose, they thought to have given it the same proportion that they found between the foot of a man and the rest of his body. According to their ideas, the foot made a sixth part of the human height: in consequence, they gave at first to a Doric column, taking in its chapter, six of its diameters; that is to say, they made it six times as high as it was thick: afterwards they added to it a seventh diameter.

<sup>9</sup> Origin of the Doric order.

<sup>10</sup> Of the Ionic.

“This new order of architecture was not long in giving birth to a second: they would immediately go beyond their first invention. The Ionians tried to throw still more delicacy and elegance into their edifices. They employed the same method which they had before put in practice for the composition of the Doric order: but instead of taking for a model the body of a man, the Ionians were regulated by that of a woman. With a view to make the columns of this new order more agreeable and more pleasing, they gave them eight times as much height as they had diameter. They also made channelings all along the trunk to imitate the folds of the robes of women: the volutes of the chapter represented that part of the hair which hung in curls on each side of the face. The Ionians added, lastly, to these columns a base, which was not in use in the Doric order.” According to Vitruvius, these bases were made in the manner of twisted cords, as a kind of case for the columns. This order of architecture was called *Ionic*, from the name of the people who had invented it.

Such is the account given by Vitruvius of the origin of improvements in the proportion of columns. Had these improvements, however, existed in such early times, Homer, who was greatly posterior to them, would certainly have made mention of something of that kind; but in all his writings he gives us no account of any thing like columns of stone, but uses a word which would rather incline us to think that his columns were nothing more than bare posts.

It is remarkable, that improvements in architecture did not take place in any nation till after, or about, the time that Jerusalem was taken by Nebuchadnezzar.

The grandest buildings erected among the Assyrians seem to have owed their existence to this monarch; and it can scarce be imagined that he would not endeavour to imitate the architecture of Solomon's temple, to which, by his conquest of Jerusalem he had full access. It is also remarkable, that the dimensions of the two pillars, Jachin and Boaz, set up by Solomon, very nearly correspond with those of the Doric order, first invented by the Greeks, and which originally came from their colonies settled in Asia Minor. The height of Solomon's pillars, without the chapter, was 18 cubits; that of the chapter itself was five cubits; the circumference was 12 cubits; from whence, according to the Scripture language, we may reckon the diameter to have been exactly four cubits. Had they been a single cubit higher, they would have been precisely of the same height with columns of the original Doric order. We do not indeed mean to assert, that this famous temple gave a model of architecture to the whole world; although it is scarce conceivable but imitations of it, as far as it could be known, must have taken place among many nations.

Notwithstanding all their defects, however, the Egyptian buildings undoubtedly had an air of vast grandeur and magnificence, if we may credit the description given of one their banqueting rooms by Vitruvius. The usual size of one of these rooms was from 100 to 150 feet in length, and its breadth somewhat more than half its length. At the upper end, and along the two sides, they placed rows of pillars tolerably well proportioned to one another, though not of any regular order; and at the lower part they made a magnificent and spacious entrance: this, with its ornaments, seems to have taken up one end of the building entire. We are not told that there were any pillars there; though perhaps they placed two or more toward the angles on each side, for uniformity, the central space being enough for an entrance in the grandest and most august manner. These rows of columns were set at a distance from the wall, forming a noble portico along the two sides and upper end of the building. Upon the pillars was laid an architrave; and from this was carried up a continued wall with three quarter columns, answering directly to those below, and in proportion one fourth smaller in all their parts. Between these three quarter columns were placed the windows for enlightening the building. From the tops of the lower pillars to the wall was laid a floor; this covered the portico overhead within, and made on the outside a platform, which was surrounded by a corridor with rails and balusters. This was terraced, and served as a plain for people to walk on; and from this they could look through the windows down into the room. To this terrace there was no covering required, as the Egyptians were in no fear of rain. The Egyptians decorated this sort of building with statues; and no kind of ornament could answer it so well, as the light cannot fall upon statues to such advantage in any direction, as when it comes from above, in such a regular, proportioned, and uninterrupted manner.

<sup>12</sup> Egyptian banqueting room described.

<sup>13</sup> Ancient architecture superior in grandeur to the modern.

We have already taken notice, that among the ancient Egyptians, Persians, and Babylonians, the vast strength and extent of their buildings seems to have been what they chiefly valued; and in this they certainly as much excelled the Greeks and modern nations,

<sup>11</sup> Hints of improvement probably taken from Solomon's temple.



as the latter excel them in the beautiful proportion and elegance of their structures. There are not wanting, however, some modern authors, who endeavour to deprive the ancients of what is justly their due, and will have every thing to be exaggerated which seems beyond the power of modern princes to accomplish. In this way M. Goguet remarkably distinguishes himself; and that without giving any reason at all, but merely that he takes it into his head. Speaking of the wonders of ancient Babylon, "All these works (says he), so marvellous in the judgment of antiquity, appear to me to have been extremely exaggerated by the authors who have spoken of them. How can we conceive, in effect, that the walls of Babylon could have been 318 feet high and 81 in thickness, in a compass of near ten leagues?" To this we may easily reply, that the pyramids of Egypt, and the immense wall which divides China from Tartary, show us, that even such a work as the wall of ancient Babylon is said to have been is not altogether incredible. The lowest computation of the dimensions of the Chinese wall is, that it extends in length 1200 miles, is 18 feet high at a medium and as many thick; according to which computation, it must contain 9,504,000 solid fathoms; and yet, if we may credit the Chinese historians, this immense mass of building was finished in five years. If therefore we can suppose Nebuchadnezzar, or whoever fortified the city of Babylon, to have been capable of employing as many men for 10 years as were employed in raising the Chinese wall, we may suppose him able to have fortified the city of Babylon as strongly as it is said to have been; for the mass of building is not quite double that of the Chinese wall, though nearly so, amounting to 18,189,600 solid fathoms. When our author afterwards gargonades about the works of the French king, it is difficult to avoid laughter at hearing him declare, that "infinitely more money has been expended, and much more genius required, as well as more power, taste, and time, to finish Versailles, with all its defects, than to construct a pyramid, or erect an obelisk." The genius, taste, and time, we shall not dispute; but as the same author confesses that 100,000 men were employed for 30 years together in the construction of the largest pyramid, we think the power may justly be doubted. This doubt will appear still the more reasonable, when we consider what time the above-mentioned number of men would have taken to accomplish some of the works of which M. Goguet boasts so much. The canal of Languedoc, he tells us, extends in length upwards of 70 leagues, and required the removal of two millions of cubic fathoms of earth. This was no doubt a great work; but had 100,000 men been employed upon it at once, they must have removed this quantity of earth in three weeks, supposing each to have removed only a single fathom a-day. Nor can we imagine, that any modern work will at all stand in competition with the works of the ancients as to greatness, whatever they may do in other respects.

<sup>14</sup>  
Architecture improved by the Greeks.

As to the improvements in architecture, the Greeks were undoubtedly the first European nation who began to distinguish themselves in this way. Whence they took the first hint of improvement, we have no means of knowing: though, as we have already hinted, it is scarce credible but that Solomon's temple must have

somewhat contributed thereto; especially as we learn from Scripture, that the capitals of the columns there were ornamented in the richest manner. The origin of the Doric and Ionic orders we have already given an account of from Vitruvius; to which we may add, that the volutes, which are the peculiar ornament of the Ionic capital, are by some said to represent the natural curling down of a piece of bark from the top of a beam, which is supposed to have been the first kind of column. The Corinthian order was not invented till <sup>15</sup> long after the others, and is said to have taken its rise from the following accident: A basket had been set <sup>Origin of the Corinthian order.</sup> upon the ground, and covered with a square tile; there grew near it a plant of acanthus or bear's breech; the leaves shot up and covered the outer surface of the basket; and, as the stalks rose up among them, they soon reached the tile which overhung the edges of the basket at the top; this stopping their course upwards, they curled and twisted themselves into a kind of volutes. In this situation a sculptor, Callimachus, saw it; the twisted part of the stalk represented to him the volutes of the Ionic capital, which, as they were here smaller, and more numerous, appeared in a new form: he saw the beauty of raising them among leaves, and was struck with the representation of a noble and lofty capital; which being afterwards put into execution, has been universally admired.

In their private houses the Greeks had greater conveniences, but much less magnificence, than the Romans, as the former reserved the use of their grandest architecture for their temples and public buildings. The entrance to their private houses, however large they were, was always small, narrow, and plain. The whole edifice usually consisted of two courts, and several ranges of buildings. The porter's lodge, if such a phrase may be allowed, was usually on the right hand of this narrow entrance, and opposite to this were the stables. From this entrance one came into the first or smaller court. This had piazzas on three sides; and on the fourth, which was usually the south side, there were butments of pilasters, which supported the more inward parts of the ceiling. A space being thus left between the one and the other, they had places for the lodgings of men and maid servants, and such as had the principal care of the house. Upon the same floor with these butments they had several regular apartments, consisting of an antichamber, a chamber, and closets; and about the piazzas, rooms for eating and other common purposes. Opposite to the entrance was a lobby or vestibule, through which lay the passage into the several rooms; and through this, in front, one entered a large passage, which led into the larger or principal square. Round this they had four piazzas, which, in the common way of building, were all of one height; but, in more magnificent houses, they made that which faced the great entrance loftier, and every way nobler, than the other three. A nobleman of Rhodes added this to the common method of building; and it was thence called the *Rhodian* manner. In this more noble part of the building were the apartments of the family. These were adorned with lofty galleries, and here were the best rooms: they were called the *men's apartments*; for, in rude times, the Greeks lodged their wives and female relations in the best rooms of the first court, where they had also their separate and detached place.

<sup>16</sup>  
Private houses of the Greeks.



The two sides of this larger court were kept for the reception of visitors; and servants were appointed to wait upon them. The master of the house entertained his guests the first day in his own apartments; but after this, how long soever they staid, they lived without restraint in one of those separate piazzas, and joined the family only when they chose it. Thus was the upper end and two sides of the great court disposed of; and its lower end, being the same range of building that was the upper end of the first court, held the lady of the house and her female friends.

17  
Of the Romans.

The Romans borrowed their architecture from the Greeks, but did not imitate them in the modesty of their private dwellings. They placed the principal front of their house towards the south, and on this they bestowed all the decoration of expensive ornament. They had here lofty galleries and spacious rooms, and every thing carried an air of greatness and show. In their country houses, they preserved the same situation and the same front, but the inner distribution was different. At the entrance they placed the meaner and more offensive offices, after the manner of the Greeks. The first gallery, which received the stranger at his entrance, had on one side a passage to the kitchen, and on the other to the stalls where they kept cattle, that their noise or smell might not be offensive within, while yet they were in readiness for all services. These stalls were placed to the left, as in the Greek houses; on the right was the kitchen, which had its light from above, and its chimney in the middle. Farther within the building were placed on one side bathing rooms, and on the other family conveniences, in the manner of our butteries and store rooms: the bathing rooms were on the left, and the others on the right. Backwards, and full to the north, they placed their cellars, for fear of the sun, and over these were other store rooms. From this part of the structure one came into the court; for in these there generally was only one court: this was taken up by servants, and those who had the care of the cattle; and on each side there were stalls for the cattle. In front from the entrance, but very far from all these annoyances, stood the nobler apartments for the master of the family.

18  
Decline of the art among the Romans.

How magnificent the Romans were in their temples and public buildings, is yet to be seen in what remains of them, and which are not only models for all modern architects, but have never been surpassed or even equalled to this day. But though the art of architecture continued almost at its highest pitch among the Romans for two centuries, it declined exceedingly as the empire began to fail. Tacitus relates, that after the battle of Actium no men of genius appeared; and after the reign of Alexander Severus, a manner of building altogether confused and irregular was introduced, wherein nothing of the true graces and majesty of the former was preserved. When the empire was entirely overrun by the Goths, the conquerors naturally introduced their own method of building. Like the ancient Egyptians, the Goths seem to have been more studious to amaze people with the greatness of their buildings than to please the eye with the regularity of their structure, or the propriety of their ornaments. They corrected themselves, however, a little by the models of the Roman edifices which they saw before them; but these models themselves were

19  
Gothic manner of building.

faulty; and the Goths being totally destitute of genius, neither architecture nor any other art could be improved by them.

Most writers who mention the ancient buildings in this island, particularly the religious ones, notwithstanding the striking difference in the styles of their construction, class them all under the common denomination of *Gothic*; a general appellation by them applied to buildings not exactly conformable to some one of the five orders of architecture. Our modern antiquaries, more accurately, divide them into Saxon, Norman, and Saracenic, or that species vulgarly, though improperly, called *modern Gothic*.

It has been maintained by some, that the Saxon churches, after they began to be built with stone, consisted only of upright walls, without pillars or arches, the construction of which, it is alleged, they were entirely ignorant of. But this opinion is not only contradicted by the testimony of several cotemporary or very ancient writers, who expressly mention them both, but also by the remains of some edifices universally allowed to be of Saxon workmanship, one of them the ancient conventual church at Ely. Indeed, it is highly improbable that the Saxons could be ignorant of so useful a contrivance as the arch. Many of them, built by the Romans, they must have had before their eyes; some of which have reached our days: two particularly are now remaining in Canterbury only; one in the castle yard, the other at Riding gate. And it is not to be believed, that once knowing them and their convenience, they would neglect to make use of them; or having used, would relinquish them. Besides, as it appears from undoubted authorities they procured workmen from the continent to construct their capital buildings "according to the Roman manner," this alone would be sufficient to confute that ill-grounded opinion; and at the same time proves, that what we commonly call *Saxon*, is in reality Roman architecture.

20  
Of the Saxon and Norman styles.

This was the style of building practised all over Europe; and it continued to be used by the Normans, after their arrival here, till the introduction of what is called the *modern Gothic*, which was not till about the end of the reign of Henry II. so that there seems to be little or no grounds for a distinction between the Saxon and Norman architecture. Indeed it is said, the buildings of the latter were of larger dimensions both in height and area; and they were constructed with a stone brought from Caen in Normandy, of which their workmen were peculiarly fond: but this was simply an alteration in the scale and materials, and not in the manner of the building. The ancient parts of most of our cathedrals are of this early Norman work.—The characteristic marks of this style are these: The walls are very thick, generally without buttresses; the arches, both within and without, as well as those over the doors and windows, semicircular, and supported by very solid, or rather clumsy, columns, with a kind of regular base and capital: in short, plainness and solidity constitute the striking features of this method of building. Nevertheless, the architects of those days sometimes deviated from this rule: their capitals were adorned with carvings of foliage, and even animals; and their massive columns decorated with small half columns united to them, and  
their



their surfaces ornamented with spirals, squares, lozenge net-work, and other figures, either engraved or in relief. Various instances of these may be seen in the cathedral of Canterbury, particularly the undercroft, the monastery at Lindisfarne or Holy Island, the cathedral at Durham, and the ruined choir at Orford in Suffolk. The columns 1, 1, 1, 1, (Plate XXXVIII.), are at the monastery of Lindisfarne or Holy Island. Those 2, 2, 2, belong to the ruined chancel at Orford in Suffolk. N<sup>o</sup> 3 is at Christ church, Canterbury. N<sup>o</sup> 4, a column with two remarkable projections like claws, in the south aisle of Romsey church, Hampshire.

21  
Of the modern Gothic or Saracenic style.

To what country or people the *modern Gothic*, or the style of building with pointed arches so called, owes its origin, seems by no means satisfactorily determined. Some have imagined it may possibly have taken its rise from those arcades we see in the early Norman or Saxon buildings or walls, where the wide semicircular arches cross and intersect each other, and form at their intersection a narrow and sharp-pointed arch: But it is more generally conjectured to be of Arabian extraction, and to have been introduced into Europe by some persons returning from the Crusades in the Holy Land. Sir Christopher Wren was of that opinion, and it has been subscribed to by most writers who have treated on this subject.

“Modern Gothic, as it is called (says Rious), is distinguished by the lightness of its work, by the excessive boldness of its elevations and of its sections; by the delicacy, profusion, and extravagant fancy of its ornaments. The pillars of this kind are as slender as those of the ancient Gothic are massive; such productions, so airy, cannot admit the heavy Goths for their author. How can be attributed to them a style of architecture, which was only introduced in the tenth century of our era, several years after the destruction of all those kingdoms which the Goths had raised upon the ruins of the Roman empire, and at a time when the very name of Goth was entirely forgotten? From all the marks of the new architecture, it can only be attributed to the Moors; or, what is the same thing, to the Arabians or Saracens, who have expressed, in their architecture, the same taste as in their poetry; both the one and the other falsely delicate, crowded with superfluous ornaments, and often very unnatural: the imagination is highly worked up in both; but it is an extravagant imagination; and this has rendered the edifices of the Arabians (we may include the other orientals) as extraordinary as their thoughts. If any one doubts of this assertion, let us appeal to any one who has seen the mosques and palaces of Fez, or some of the cathedrals in Spain built by the Moors; one model of this sort is the church at Burgos; and even in this island there are not wanting several examples of the same; such buildings have been vulgarly called modern Gothic, but their true appellation is Arabic, Saracenic, or Moreque.—This manner was introduced into Europe through Spain. Learning flourished among the Arabians all the time that their dominion was in full power; they studied philosophy, mathematics, physic, and poetry. The love of learning was at once excited; in all places that were not at too great a distance from Spain, these authors were read: and such of the Greek authors as they had

translated into Arabic, were from thence turned into Latin. The physic and philosophy of the Arabians spread themselves in Europe, and with these their architecture: many churches were built after the Saracenic mode; and others with a mixture of heavy and light proportions, the alteration that the difference of the climate might require, was little, if at all considered. In most southern parts of Europe, and in Africa, the windows (before the use of glass), made with narrow apertures, and placed very high in the walls of the building, occasioned a shade and darkness within side, and were all contrived to guard against the fierce rays of the sun; yet were ill suited to latitudes where that glorious luminary shades its feebler influences, and is rarely seen but through a watery cloud.”

Mr Grose, however, thinks the above opinion is not sufficiently favoured by the observations of several learned travellers who have accurately surveyed the ancient mode of building in those parts of the world. Thus Cornelius le Brun, an indefatigable and inquisitive traveller, has published many views of eastern buildings, particularly about the Holy Land: in all these, only one Gothic ruin, the church near Acre, and a few pointed arches, occur; and those built by the Christians when in possession of the country. Near Ispahan, in Persia, he gives several buildings with pointed arches: but these are bridges and caravanferas, whose age cannot be ascertained; consequently are as likely to have been built after, as before the introduction of this style into Europe. At Ispahan itself, the mey doen, or grand market-place, is surrounded by divers magnificent Gothic buildings; particularly the royal mosque, and the Talael Ali-kapie, or theatre. The magnificent bridge of Alla-werdie-chan, over the river Zenderoet, 540 paces long and 17 broad, having 33 pointed arches, is also a Gothic structure; but no mention is made when or by whom these are built. The Chiaer Baeg, a royal garden, is decorated with Gothic buildings; but these were, it is said, built only in the reign of Schah Abbas, who died anno 1629. One building indeed, Mr Grose admits, seems at first as if it would corroborate this assertion, and that the time when it was erected might be in some degree fixed; it is the tomb of Abdalla, one of the apostles of Mahomet, probably him surnamed Abu Becr. “If this tomb (says he) is supposed to have been built soon after his death, estimating that even to have happened according to the common course of nature, it will place its erection about the middle of the seventh century: but this is by far too conjectural to be much depended on. It also seems as if this was not the common style of building at that time, from the temple of Mecca; where, if any credit is to be given to the print of it in Sale’s Koran, the arches are semicircular. The tomb here mentioned has one evidence to prove its antiquity; that of being damaged by the injuries of time and weather. Its general appearance much resembles the east end of the chapel belonging to Ely House, London, except that which is filled up there by the great window: in the tomb is an open pointed arch, where also the columns or pinnacles on each side are higher in proportion.

As to the supposition that this kind of architecture was brought into Spain by the Moors (who possessed themselves



themselves of a great part of that country the beginning of the eighth century, which they held till the latter end of the fifteenth), and that from thence, by way of France, it was introduced into Britain; this at first seems plausible: though, according to Mr Grose, the only instance which seems to corroborate this hypothesis, or at least the only one proved by authentic drawings, is the mosque at Cordova in Spain; where, if we may judge from the views published by Mr Swinburne, although most of the arches are circular or horse-shoe fashion, there are some pointed arches formed by the intersection of two segments of a circle. This mosque was, as it is there said, begun by Abdoulrahman I. who laid the foundation two years before his death, and was finished by his son Hishem or Iscan about the year 800. If these arches were part of the original structure, it would be much in favour of the supposition; but as it is also said that edifice has been more than once altered and enlarged by the Mahometans, before any well-grounded conclusion can be drawn, it is necessary to ascertain the date of the present building.

There are also several pointed arches in the Moorish palace at Granada, called the *Alhambra*; but as that was not built till the year 1273, long after the introduction of pointed arches into Europe, they are as likely to be borrowed by the Moors from the Christians, as by the Christians from the Moors. The greatest peculiarity in the Moorish architecture is the horse-shoe arch, which containing more than a semicircle, contracts towards its base, by which it is rendered unfit to bear any considerable weight, being solely calculated for ornament. In Romsey church, Hampshire, there are several arches of this form.

In the drawings of the Moorish buildings given in *Les Delices de l'Espagne*, said to be faithful representations, there are no traces of the style called Gothic architecture: there, as well as in the Moorish castle at Gibraltar, the arches are all represented circular. Perhaps a more general knowledge of these buildings would throw some light on the subject: possibly the Moors may, like us, at different periods have used different manners of building.

The marks which constitute the character of Gothic, or Saracenic architecture, are its numerous and prominent buttresses, its lofty spires and pinnacles, its large and ramified windows, its ornamental niches or canopies, its sculptured saints, the delicate lace-work of its fretted roofs, and the profusion of ornaments lavished indiscriminately over the whole building: but its peculiar distinguishing characteristics are, the small clustered pillars and pointed arches formed by the segments of two intersecting circles; which arches, though last brought into use, are evidently of more simple and obvious construction than the semicircular ones; two flat stones, with their tops inclined to each other, and touching, form its rudiments; a number of boughs stuck into the ground opposite each other, and tied together at the top, in order to form a bower, exactly describe it: whereas a semicircular arch appears the result of deeper contrivance, as consisting of more parts; and it seems less probable chance, from whence all these inventions were first derived, should throw several wedge-like stones between two set perpendicular, so as exactly to fit and fill up the interval.

Bishop Warburton, in his notes on Pope's Epistles, in the octavo edition, has the following ingenious observations on this subject:—"Our Gothic ancestors had juster and manlier notions of magnificence, on Greek and Roman ideas, than these mimics of taste, who profess to study only classic elegance; and because the thing does honour to the genius of those barbarians, I shall endeavour to explain it. All our ancient churches are called without distinction Gothic, but erroneously. They are of two sorts; the one built in the Saxon times, the other in the Norman. Several cathedral and collegiate churches of the first sort are yet remaining, either in whole or in part; of which this was the original: When the Saxon kings became Christians, their piety (which was the piety of the times), consisted chiefly in building churches at home, and performing pilgrimages abroad, especially to the Holy Land: and these spiritual exercises assisted and supported one another; for the most venerable as well as most elegant modes of religious edifices were then in Palestine. From these the Saxon builders took the whole of their ideas, as may be seen by comparing the drawings which travellers have given us of the churches yet standing in that country, with the Saxon remains of what we find at home; and particularly in that sameness of style in the latter religious edifices of the knights temporals (professedly built upon the model of the church of the Holy Sepulchre at Jerusalem), with the earlier remains of our Saxon edifices. Now the architecture of the Holy Land was Grecian, but greatly fallen from its ancient elegance. Our Saxon performance was indeed a bad copy of it, and as much inferior to the works of St Helena and Justinian, as theirs were to the Grecian models they had followed: yet still the footsteps of ancient art appeared in the circular arches, the entire columns, the division of the entablature into a sort of architrave, frieze, and cornice, and a solidity equally diffused over the whole mass. This, by way of distinction, I would call the Saxon architecture. But our Norman works had a very different original. When the Goths had conquered Spain, and the genial warmth of the climate and the religion of the old inhabitants had ripened their wits and inflamed their mistaken piety, both kept in exercise by the neighbourhood of the Saracens, through emulation of their service, and aversion to their superstition, they struck out a new species of architecture, unknown to Greece and Rome, upon original principles, and ideas much nobler than what had given birth even to classical magnificence. For this northern people having been accustomed, during the gloom of Paganism, to worship the deity in groves (a practice common to all nations); when their new religion required covered edifices, they ingeniously projected to make them resemble groves, as nearly as the distance of architecture would permit; at once indulging their old prejudices, and providing for their present conveniences, by a cool receptacle in a sultry climate: and with what skill and success they executed the project by the assistance of Saracen architects, whose exotic style of building very luckily suited their purpose, appears from hence, that no attentive observer ever viewed a regular avenue of well-grown trees intermixing their branches overhead, but it presently put him in mind of the long vista through the Gothic cathedral;

or



or ever entered one of the larger and more elegant edifices of this kind, but it presented to his imagination an avenue of trees; and this alone is what can be truly called the Gothic style of building. Under this idea of so extraordinary a species of architecture, all the irregular transgressions against art, all the monstrous offences against nature, disappear; every thing has its reason, every thing is in order, and an harmonious whole arises from the studious application of means proper and proportionate to the end. For could the arches be otherwise than pointed, when the workmen were to imitate that curve which branches of two opposite trees make by their insertion with one another? or could the columns be otherwise than split into distinct shafts, when they were to represent the stems of a clump of trees growing close together? On the same principles they formed the spreading ramification of the stone work in the windows, and the stained glass in the interstices; the one to represent the branches, and the other the leaves of an opening grove, and both concurred to preserve that gloomy light which inspires religious reverence and dread. Lastly, We see the reason of their studied aversion to apparent solidity in these stupendous masses, deemed so absurd by men accustomed to the apparent as well as real strength of Grecian architecture. Had it been only a wanton exercise of the artist's skill, to show he could give real strength without the appearance of any, we might indeed admire his superior science, but we must needs condemn his ill judgment. But when one considers, that this surprising lightness was necessary to complete the execution of his idea of a sylvan place of worship, one cannot sufficiently admire the ingenuity of the contrivance. This too will account for the contrary qualities in what I call the Saxon architecture. These artists copied, as has been said, from the churches in the Holy Land, which were built on the models of the Grecian architecture, but corrupted by prevailing barbarism; and still farther depraved by a religious idea. The first places of Christian worship were sepulchres and subterraneous caverns, low and heavy from necessity. When Christianity became the religion of the state, and sumptuous temples began to be erected, they yet, in regard to the first pious ages, preserved the massive style, made still more venerable by the church of the Holy Sepulchre; where this style was, on a double account, followed and aggravated."

22  
Ancient  
rise and pro-  
gress of ar-  
chitecture  
in Britain.

In Britain, before the Roman invasion, the natives appear to have had no better lodgings than thickets, dens, and caves. Some of these caves, which were their winter habitations, and places of retreat in time of war, were formed and rendered secure and warm by art, like those of the ancient Germans, which are thus described by Tacitus: They are used to dig deep caves in the ground and cover them with earth, where they lay up their provisions, and dwell in winter for the sake of warmth. Into these they retire also from their enemies, who plunder the open country, but cannot discover these subterranean recesses." Some of the subterraneous, or *earth houses*, as they are called, are still remaining in the Western isles of Scotland and in Cornwall. The summer habitations of the most ancient Britons were very slight; and, like those of the Finians, consisted only of a few stakes driven into the

ground, interwoven with wattles, and covered over with the boughs of trees.

When Julius Cæsar invaded Britain, the inhabitants of Cantium (Kent, and of some other parts in the south, had learned to build houses a little more substantial and convenient. "The country (says Cæsar) abounds in houses, which very much resemble those of Gaul." The first step towards this improvement seems to have been that of daubing the wattled walls of their houses with clay, to fill up the chinks and make them warmer. "The Germans used for this purpose a kind of pure resplendent earth of different colours, which had an appearance of painting at a distance;" but the Gauls and Britons chose rather to whitewash the clay after it was dry with chalk. Instead of the boughs of trees, they thatched these houses with straw, as a much better security against the weather. They next proceeded to form the walls of large beams of wood, instead of stakes and wattles. This seems to have been the mode of building in Britain, when it was first invaded by the Romans. "The Britons (says Diodorus Siculus, who was cotemporary with Cæsar) dwell in wretched cottages, which are constructed of wood, covered with straw." These wooden houses of the ancient Gauls and Britons were not square but circular, with high tapering roofs, at the top or centre of which was an aperture for the admission of light and emission of smoke. Those of Gaul are thus described by Strabo: "They build their houses of wood, in the form of a circle, with lofty tapering roofs." The foundations of some of the most magnificent of these circular houses were of stone, of which there are some vestiges still remaining in Anglesey and other places. It was probably in imitation of these wooden houses, that the most ancient stone edifices, of which there are still some remains in the Western islands of Scotland, were built circular, and have a large aperture at the top.

When the Britons were invaded by the Romans, they had nothing among them answering to our ideas of a city or town, consisting of a great number of contiguous houses disposed into regular streets, lanes, and courts. Their dwellings, like those of the ancient Germans, were scattered about the country, and generally situated on the brink of some rivulet for the sake of water, and on the skirt of some wood or forest for the conveniency of hunting and pasture for their cattle. As these inviting circumstances were more conspicuous in some parts of the country than others, the princes and chiefs made choice of these places for their residence; and a number of their friends and followers, for various reasons, built their houses as near to them as they could with conveniency. This naturally produced an ancient British town, which is described by Cæsar and Strabo in the following manner: "From the Cassi he learnt that the town of Cassivelaun was at no great distance; a place defended by woods and marshes, in which very great numbers of men and cattle were collected. For what the Britons call a town is a tract of woody country surrounded by a mound and ditch, for the security of themselves and their cattle against the incursions of their enemies." "The forests of the Britons are their cities; for when they have enclosed a very large circuit with felled trees, they build within it houses for themselves and hovels for their cattle. These buildings are very slight, and

not



not designed for long duration." The palaces of the British princes were probably built of the same materials, and on the same plan, with the houses of their subjects, and differed from them only in solidity and magnitude.

Though the communication between this island and the continent was more free and open after the first Roman invasion than it had been before, and some of the British princes and chieftans even visited Rome, then in its greatest glory; it doth not appear that the people of Britain made any considerable improvements in their manner of building for at least a hundred years after that invasion. For when the renowned Caractacus was carried prisoner to Rome, A. D. 52, and observed the beauty and magnificence of the buildings in that proud metropolis of the world, he is said to have expressed great surprize, "That the Romans, who had such magnificent palaces of their own, should envy the wretched cabins of the Britons."

It must appear very surprizing that the ancient Britons, when they were so ignorant of architecture, were capable of erecting (if indeed it was erected by them) so stupendous a fabric as that of Stonehenge on Salisbury plain: A fabric which hath been the admiration of all succeeding ages, and hath outlasted all the solid and noble structures which were erected by the Romans in this island. See the article *STONEHENGE*.

Of another very extraordinary species of building several remains are found in the Highlands of Scotland. They consist of ruins; the walls of which, instead of being cemented with lime or some other similar substance, or of being raised with dry stones as was the method before cement came into use, are described as having been vitrified, or the stones run and compacted together by the force of fire. Concerning the origin, use, &c. of these buildings, different opinions have been formed; and even the reality of them as works of contrivance has been called in question: of all which particulars the reader will find an account under the article *FORTS (Vitrified)*.

But for whatever purposes, or by whatever means, the above and other similar structures of a peculiar nature were erected, we have sufficient evidence that the people of Britain, before they were subdued and instructed by the Romans, had but a rude knowledge of architecture, and were very meanly lodged. As soon, however, as the Romans began to form settlements and plant colonies in this island, a sudden and surprizing change ensued in the state of architecture. For that wonderful people were as industrious as they were brave, and made haste to adorn every country that they conquered. The first Roman colony was planted at Camelodunum, A. D. 50; and when it was destroyed by the Britons in their great revolt under Boadicea, only eleven years after, it appears to have been a large and well built town, adorned with statues, temples, theatres, and other public edifices.

The Romans not only built a prodigious number of solid, convenient, and magnificent structures for their own accommodation, but they exhorted, encouraged, and instructed the Britons to imitate their example. This was one of the arts which Agricola, the most excellent of the Roman governors, employed to civilize the Britons, and reconcile them to the Roman government. "The following winter (says Tacitus) was

spent by Agricola in very salutary measures. That the Britons who led a roaming and unsettled life, and were easily infligated to war, might contract a love to peace and tranquillity, by being accustomed to a more pleasant way of living, he exhorted and assisted them to build houses, temples, courts, and market-places. By praising the diligent and reproaching the indolent, he excited so great an emulation among the Britons, that after they had erected all those necessary edifices in their towns, they proceeded to build others merely for ornament and pleasure, as porticoes, galleries, baths, banqueting houses, &c." From this time, which was A. D. 80, to the middle of the fourth century, architecture and all the arts immediately connected with it greatly flourished in this island; and the same taste for erecting solid, convenient, and beautiful buildings, which had long prevailed in Italy, was introduced into Britain. Every Roman colony and free city (of which there was a great number in this country was a little Rome, encompassed with strong walls, adorned with temples, palaces, courts, halls, basilicks, baths, markets, aqueducts, and many other fine buildings, both for use and ornament. The country everywhere abounded with well-built villages, towns, forts, and stations; and the whole was defended by that high and strong wall, with its many towers and castles, which reached from the mouth of the river Tyne on the east to the Solway Frith on the west. This spirit of building, which was introduced and encouraged by the Romans, so much improved the taste and increased the number of the British builders, that in the third century this island was famous for the great number and excellence of its architects and artificers. When the emperor Constantius, father of Constantine the Great, rebuilt the city of Autun in Gaul, A. D. 296, he was chiefly furnished with workmen from Britain, "which (says Eumenius) very much abounded with the best artificers."

Not very long after this period, architecture and all the arts connected with it began to decline very sensibly in Britain, and in all the provinces of the western empire. This was partly owing to the building of Constantinople, which drew many of the most famous architects and other artificers into the east, and partly to the irruptions and depredations of the barbarous nations.

The final departure of the Romans was followed by the almost total destruction of architecture in this island. For the unhappy and unwarlike people whom they left behind, having neither skill nor courage to defend the numerous towns, forts, and cities which they possessed, they were seized by their ferocious invaders, who first plundered and then destroyed them. By this means, the many noble structures, with which Provincial Britain had been adorned by the art and industry of the Romans, were ruined or defaced in a very little time; and the unfortunate Britons were quite incapable of repairing them, or of building others in their room. That long succession of miseries in which they were involved by the Scots, Picts, and Saxons, deprived them of the many useful arts which they had learned from their former masters, and lodged them once more in forests, dens, and caves, like their savage ancestors.

The most wanton and extensive devastations were those committed by the Anglo-Saxons; among whom



it seems to have been a maxim to destroy all the towns and castles which they took from their enemies, instead of preserving them for their own use.

It cannot be supposed, that a people who wantonly demolished so many beautiful and useful structures had any taste for the arts by which they had been erected. The truth is, that the Anglo-Saxons at their arrival in this island were almost totally ignorant of these arts; and, like all the other nations of Germany, had been accustomed to live in wretched hovels, built of wood or earth, and covered with straw or the branches of trees: nor did they much improve in the knowledge of architecture for 200 years after their arrival. During that period, masonry was quite unknown and unpractised in this island; and the walls even of cathedral churches were built of wood. "There was a time (says venerable Bede) when there was not a stone church in all the land; but the custom was to build them all of wood. Finan, the second bishop of Lindisfarne, or Holy Island, built a church in that island, A. D. 652, for a cathedral, which yet was not of stone, but of wood, and covered with reeds; and so it continued till Eadbert, the successor of St Cuthbert, and seventh bishop of Lindisfarne, took away the reeds, and covered it all over, both roof and walls, with sheets of lead." The first cathedral of York was built of the same materials; and a church of stone was esteemed a kind of prodigy in those times that merited a place in history. "Paulinus, the first bishop of York, built a church of stone in the city of Lincoln, whose walls (says Bede) are still standing, though the roof is fallen down; and some healing miracles are wrought in it every year, for the benefit of those who have the faith to seek them."

There does not seem to have been so much as one church of stone, nor any artists who could build one, in all Scotland, at the beginning of the eighth century. For Naitan king of the Picts, in his famous letter to Ceolfred abbot of Weremouth, A. D. 710, earnestly entreats him to send him some masons to build a church of stone in his kingdom, in imitation of the Romans; which he promises to dedicate to the honour of the apostle Peter, to whom the abbey of Weremouth was dedicated: and we are told by Bede, who was then living in that abbey, that the reverend abbot Ceolfred granted this pious request, and sent masons according to his desire.

Masonry was restored, and some other arts connected with it introduced into England, towards the end of the seventh century, by two clergymen, who were great travellers, and had often visited Rome, where they had acquired some taste for these arts. These were, the famous Wilfrid bishop of York, and afterwards of Hexham, and Benedict Biscop, founder of the abbey of Weremouth. Wilfrid, who was one of the most ingenious, active, and magnificent prelates of the seventh century, was a great builder, and erected several structures at York, Rippon, and Hexham, which were the admiration of the age in which he flourished. The cathedral of Hexham, which was one of these structures, is thus described by his biographer: "Having obtained a piece of ground at Hexham from Queen Etheldreda, he there founded a most magnificent church, which he dedicated to the blessed apostle St Andrew. As the plan of this sacred structure seems

to have been inspired by the Spirit of God, it would require a genius much superior to mine to describe it properly. How large and strong were the subterraneous buildings, constructed of the finest polished stones! How magnificent the superstructure, with its lofty roof, supported by many pillars, its long and high walls, its sublime towers, and winding stairs! In one word, there is no church on this side of the Alps so great and beautiful." This admired edifice, of which some vestiges are still remaining, was built by masons and other artificers brought from Rome by the munificence of its generous founder. Benedict Biscop was the cotemporary and companion of Wilfrid in some of his journeys, and had the same taste for the arts. He made no fewer than six journeys to Rome, chiefly with a view of collecting books, pictures, statues, and other curiosities, and of persuading artificers of various kinds to come from Italy and France and settle in England. Having obtained a grant of a considerable estate from Egfrid king of Northumberland, near the mouth of the river Were, he there founded a monastery, A. D. 674. "About a year after the foundations of this monastery were laid, Benedict crossed the sea into France, where he collected a number of masons, and brought them over with him, on order to build the church of his monastery of stone after the Roman manner, of which he was a great admirer. His love to the apostle Peter, to whom he designed to dedicate his church, made him urge these workmen to labour so hard, that masonry was celebrated in it about a year after it was founded. When the work was far advanced, he sent agents into France to procure if possible some glass-makers, a kind of artificers quite unknown in England, and to bring them over to glaze the windows of his church and monastery. These agents were successful, and brought several glass-makers with them; who not only performed the work required by Benedict, but instructed the English in the art of making glass for windows, lamps, drinking vessels, and other uses."

But though these arts of building edifices of stone, with windows of glass and other ornaments, were thus introduced by these two prelates in the latter part of the seventh century, they do not seem to have flourished much for several centuries. It appears from many incidental hints in our ancient historians, that stone buildings were still very rare in the eighth and ninth ages; and that when any such buildings were erected, they were the objects of much admiration. When Alfred the Great, towards the end of the ninth century, formed the design of rebuilding his ruined cities, churches, and monasteries, and of adorning his dominions with more magnificent structures, he was obliged to bring many of his artificers from foreign countries. "Of these (as we are told by his friend and companion Asserius) he had an almost innumerable multitude, collected from different nations; many of them the most excellent in their several arts."

In the other parts of this island architecture was, as might naturally be imagined, in a still less flourishing state. It appears indeed to have been almost entirely lost among the posterity of the ancient Britons after they retired to the mountains of Wales. The chief palace of the kings of Wales, where the nobility and wise men assembled for making laws, was called the *white palace*, because



because the walls of it were woven with white wands which had the bark peeled off. By the laws of Wales, whoever burnt or destroyed the king's hall or palace was obliged to pay one pound and eighty pence, besides one hundred and twenty pence for each of the adjacent buildings, which were eight in number; viz. the dormitory, the kitchen, the chapel, the granary, the bakehouse, the storehouse, the stable, and the doghouse. From hence it appears, that a royal residence in Wales, with all its offices, when these laws were made, was valued at five pounds and eighty pence of the money of that age, equal in quantity of silver to sixteen pounds of our money, and in efficacy to one hundred and sixty. This is certainly a sufficient proof of the meanness of those buildings which were only of wood. Even the castles in Wales, in this period, that were built for the security of the country, appear to have been constructed of the same materials; for the laws required the king's vassals to come to the building of these castles with no other tools but an axe.

The arts of building do not seem to have been much better understood by the Scots and Picts than by the ancient Britons in the former part of this period. When Finan, the second bishop of Lindisfarne, built a church of wood in that island, A. D. 652, he is said to have done it *more Scotorum*, after the manner of his countrymen the Scots; and it hath been already observed, that Naitan king of the Picts was obliged to bring masons from Northumberland, when he resolved to build a church of stone in his dominions, A. D. 710. After this last period, it is probable that the Picts, and perhaps the Scots, began to learn and practise the art of masonry; because there are still some stone buildings of a very singular construction, and great antiquity, to be seen in Scotland. These buildings are all circular; though of two kinds so different from each other, that they seem to be the work of different ages and of different nations. The largest of these structures are in a very extraordinary taste of architecture; and are thus described by a modern antiquary, who viewed them with no little attention: "Having arrived at the barrack of Glenelg, I was conducted to the remains of those stupendous fabrics, seated about two miles from thence, in a valley called *Glenbeg*, in which four of them anciently stood. Two of these are now almost quite demolished, the third is half fallen down, the fourth is almost entire. The first I met with lies towards the north side of the valley, and is called *Castle Chalamine*, or *Malcom's Castle*. It stands upon a considerable eminence, and affords us a fine prospect of the island of Sky and a good part of the sea coast. The foundation of this only appears; as also of that other, on the east end of the valley, called *Castle Chonnel*. About a quarter of a mile further, upon the bank of a rivulet which passes through the middle of the glen, stands the third fabric called *Castle Tellve*. I found it composed of stones without cement; not laid in regular courses, after the manner of elegant buildings, but rudely and without order. Those toward the base were pretty large, but ascending higher they were thin and flat, some of them scarce exceeding the thickness of an ordinary brick. I was surprised to find no windows on the outside, nor any manner of entrance into the fabric, except a hole towards the west, at the base, so very low and narrow, that I was forced

to creep in upon hands and knees, and found that it carried me down four or five steps below the surface of the ground. When I was got within I was environed betwixt two walls, having a cavity or void space which led me round the whole building. Opposite to the little entry, on the outside, was a pretty large door in the second or inner wall, which let me into the area or inner court. When I was there, I perceived that one half of the building was fallen down, and thereby had the opportunity of seeing a complete section thereof. The two walls join together at the top, round about, and have formed a large void space or area in the middle. But to give a more complete idea of these buildings, I shall describe the fourth, called *Castle Troddan*, which is by far the most entire of any in that country, and from whence I had a very clear notion how these fabrics were originally contrived. On the outside were no windows, nor were the materials of this castle anywise different from those of the other already described, only the entry on the outside was somewhat larger; but this might be occasioned by the falling of the stones from above. The area of this makes a complete circle; and there are four doors in the inner wall, which face the four cardinal points of the compass. These doors are each eight feet and a half high, and five feet wide, and lead from the area into the cavity between the two walls, which runs round the whole building. The perpendicular height of this fabric is exactly 33 feet; the thickness of both walls, including the cavity between, no more than 12 feet; and the cavity itself is hardly wide enough for two men to walk abreast; the external circumference is 178 feet. The whole height of the fabric is divided into four parts or stories, separated from each other by thin floorings of flat stones, which knit the two walls together, and run quite round the building; and there have been winding stairs of the same flat stones ascending betwixt wall and wall up to the top. The undermost partition is somewhat below the surface of the ground, and is the widest; the others grow narrower by degrees till the walls close at the top. Over each door are nine square windows, in a direct line above each other, for the admission of light; and between every row of windows are three others in the uppermost story, rising above a cornice which projects out from the inner wall and runs round the fabric." From this description of these singular edifices, it plainly appears that they were designed both for lodging and defence; and considering the state of the times in which they were built, they were certainly very well contrived for answering both these purposes.

The stone edifices of the other kind which were probably erected in this period, and of which some few are still to be seen in Scotland, are not so large as the former, but more artificial. They are slender, lofty, circular towers, of cut stone, laid in regular rows, between 40 and 50 feet in external circumference, and from 70 to 100 feet high, with one door some feet from the ground. They are exactly similar to the round tower of Ardmore, and several others, in Ireland; and therefore were probably built about the same time, which was in the tenth century, and for the same purposes; which are believed by some to have been for the confinement of penitents while they were performing penance. On this account these towers are always



*Archæologia*, vol. i.  
p. 307.

found in the neighbourhood of churches both in Scotland and Ireland; and are said to have been used in this manner: "The penitents were placed in the uppermost story of the tower (which commonly consisted of five or six stories); where having made probation, or done penance, such a limited time, according to the heinousness of their crimes, they then were permitted to descend to the next floor, and so on by degrees, until they came to the door, which always faced the entrance of the church, where they stood to receive absolution from the clergy, and the blessings of the people. A tedious process, to which few penitents in the present age would willingly submit. Other writers are of opinion, that the design of these circular towers (of which one is still remaining at Abernethy and another at Brechin) was to the places from whence the people were called to public worship by the found of a horn or trumpet, before the introduction of bells.

This art received very great improvements in the 12th century; which indeed may be called *the age of architecture*; when the rage for building was more violent in England than at any other time. The great and general improvements that were made in the fabrics of houses and churches in the first years of this century, are thus described by a cotemporary writer.

*Oraerio Vi-  
tal. Hist.  
Eccles.  
p. 788.* "The new cathedrals and innumerable churches that were built in all parts, together with the many magnificent cloisters and monasteries, and other apartments of monks, that were then erected, afford a sufficient proof of the great felicity of England in the reign of Henry I. The religious of every order, enjoying peace and prosperity, displayed the most astonishing ardour in every thing that might increase the splendour of divine worship. The fervent zeal of the faithful prompted them to pull down houses and churches everywhere, and rebuild them in a better manner. By this means the ancient edifices that had been raised in the days of Edgar, Edward, and other Christian kings, were demolished, and others of greater magnitude and magnificence, and of more elegant workmanship, were erected in their room, to the glory of God."

As the prodigious power of religious zeal, whatever turn it happens to take, when it is thoroughly heated, is well known, it may not be improper to give one example of the arts employed by the clergy and monks of this period, to inflame the pious ardour of the kings, nobles, and people, for building and adorning churches. When Joffred abbot of Croyland resolved to rebuild the church of his monastery in a most magnificent manner, A. D. 1106, he obtained from the archbishops of Canterbury and York, a bull dispensing with the third part of all penances for sin to those who contributed any thing towards the building of that church. This bull was directed not only to the king and people of England, but to the kings of France and Scotland, and to all other kings, earls, barons, archbishops, bishops, abbots, priors, rectors, presbyters, and clerks, and to all true believers in Christ, rich and poor, in all Christian kingdoms. To make the best use of this bull, he sent two of his most eloquent monks to proclaim it over all France and Flanders, two other monks into Scotland, two into Denmark and Norway, two into Wales, Cornwall, and Ireland, and others into different parts of England. "By this means (says

the historian) the wonderful benefits granted to all the contributors to the building of this church were published to the very ends of the earth; and great heaps of treasure and masses of yellow metal flowed in from all countries upon the venerable Abbot Joffred, and encouraged him to lay the foundations of his church." Having spent about four years in collecting mountains of different kinds of marble from quarries both at home and abroad, together with great quantities of lime, iron, brass, and other materials for building, he fixed a day for the great ceremony of laying the foundation, which he contrived to make a very effectual mean of raising the superstructure: For on the long-expected day, the feast of the Holy Virgins Felicitas and Perpetua, an immense multitude of earls, barons, and knights, with their ladies and families, of abbots, priors, monks, nuns, clerks, and persons of all ranks, arrived at Croyland, to assist at this ceremony. The pious Abbot Joffred began by saying certain prayers, and shedding a flood of tears on the foundation. Then each of the earls, barons, knights, with their ladies, sons, and daughters, the abbots, clerks, and others, laid a stone, and upon it deposited a sum of money, a grant of lands, tithes, or patronages, or a promise of stone, lime, wood, labour, or carriages, for building the church. After this the abbot entertained the whole company, amounting to 5000 persons, at dinner. To this entertainment they were all entitled; for the money, and grants of different kinds, which they had deposited on the foundation stones, were alone sufficient to have raised a very noble fabric. By such arts as these the clergy inspired kings, nobles, and people of all ranks, with so ardent a spirit for these pious works, that in the course of this period almost all the sacred edifices in England were rebuilt, and many hundreds of new ones raised from the foundation. Nor was this spirit confined to England, but prevailed as much in Scotland in proportion to its extent and riches. King David I. alone, besides several cathedrals and other churches, built no fewer than thirteen abbeys and priories, some of which were very magnificent structures.'

The sacred architecture of the Anglo-Normans in the beginning of this period did not differ much in its style and manner from that of the Anglo-Saxons; their churches being in general plain, low, strong, and dark; the arches both of the doors and windows semicircular, with few or no ornaments. By degrees, through much practice, our architects, who were all monks or clergymen, improved in their taste and skill, and ventured to form plans of more noble, light, and elevated structures, with a great variety of ornaments; which led to that bold magnificent style of building, commonly, though perhaps not very properly, called *the later Gothic*. It is not improbable that our monkish architects were assisted in attaining this style of building by models, from foreign countries, or by instructions from such of their own number as had visited Italy, France, Spain, or the East. But the origin of this style of architecture has been already considered, and the characters by which it is distinguished from the ancient Gothic have also been described: (See N<sup>o</sup> 21. *supra*.) Its first appearance in England was towards the latter end of the reign of King Henry II. But it was not at once thoroughly adopted; some



some short solid columns and semicircular arches being retained and mixed with the pointed ones; as for example, in the west end of the Old Temple church; and at York, where under the choir there remains much of the ancient work, the arches of which are but just pointed and rise on short round pillars. In the reign of Henry III. however, this manner of building seems to have gained a complete footing; the circular giving place to the pointed arch, and the massive column yielding to the slender pillar. Indeed, like all novelties, when once admitted, the rage of fashion made it become so prevalent, that many of the ancient and solid buildings, erected in former ages, were taken down in order to be re-edified in the new taste, or had additions patched to them, of this mode of architecture. The present cathedral church of Salisbury was begun early in this reign, and finished in the year 1258. It is entirely in the Saracenic style; and, according to Sir Christopher Wren, may be justly accounted one of the best patterns of architecture of the age in which it was built. Its excellency is undoubtedly in a great measure owing to its being constructed on one plan; whence arises that symmetry and agreement of parts, not to be met with in many of our other cathedral churches; which have mostly been built at different times, and in a variety of styles. From this time till the reign of Henry VIII. the fashionable pillars in churches were of Purbec marble, very slender and round, encompassed with marble shafts a little detached, having each a capital adorned with foliage, which joining, formed one elegant capital for the whole pillar. The windows were long and narrow, with pointed arches and painted glass, which was introduced about that time, or at least became more common. In this century also they began to delight in lofty steeples, with spires and pinnales. In the fourteenth century, the pillars consisted of an assemblage of shafts not detached, but united, forming one solid and elegant column; the windows, especially those in the east and west ends, were greatly enlarged, divided into several lights by stone mullions running into ramifications above, and forming numerous compartments in various fanciful shapes. Those windows, filled with stained glass of the most lively colours, representing kings, saints, and martyrs, and their histories, made a most solemn and glorious appearance. There were several other variations, especially in the taste of the carvings and other ornaments, which are too minute for general history.

As to the state of civil architecture during the same period: The houses of the common people in the county, and of the lower burghers in towns and cities, were very little improved in their structure, that most numerous and useful order of men being much depressed in the times we are now delineating. Even in the capital city of London, all the houses of mechanics and common burghers were built of wood, and covered with straw or reeds, towards the end of the twelfth century. But the palaces, or rather castles, of the Anglo-Norman kings, barons, and prelates, were very different from the residences of persons of the same rank in the Anglo-Saxon times. For this we have the testimony of a person of undoubted credit, who was well acquainted with them both. "The Anglo-Saxon nobles (says William of Malmbury) squandered away their ample revenues in low and mean houses; but the French and

Norman barons are very different from them, living at less expence, but in great and magnificent palaces." The truth is, that the rage of building fortified castles, was no less violent among the Norman princes, prelates, and barons, than that of building churches. To this they were prompted not only by the custom of their native country, but also by their dangerous situation in this island. Surrounded by multitudes, whom they had depressed and plundered, and by whom they were abhorred, they could not think themselves safe without the protection of deep ditches and strong walls. The Conqueror himself was sensible, that the want of fortified places in England had greatly facilitated his conquest, and might facilitate his expulsion; and therefore he made all possible haste to remedy this defect, by building very magnificent and strong castles in all the towns within the royal demesnes. "William (says Matthew Paris) excelled all his predecessors in building castles, and greatly harassed his subjects and vassals with these works." All his earls, barons, and even prelates, imitated his example; and it was the first care of every one who received the grant of an estate from the crown, to build a castle upon it for his defence and residence. The disputes about the succession in the following reigns, kept up this spirit for building great and strong castles. William Rufus was still a greater builder than his father. "This William (says Henry Knyghton) was much addicted to building royal castles and palaces, as the castles of Dover, Windsor, Norwich, Exeter, the palace of Westminster, and many others, testify; nor was there any king of England before him that erected so many and such noble edifices." Henry I. was also a great builder both of castles and monasteries. But this rage for building never prevailed so much in any period of the English history as in the turbulent reign of King Stephen, from A. D. 1135 to A. D. 1154. "In this reign (as we are told by the author of the Saxon Chronicle) every one who was able built a castle; so that the poor people were worn out with the toil of these buildings, and the whole kingdom was covered with castles." This last expression will hardly appear too strong, when we are informed, that besides all the castles before that time in England, no fewer than 1115 were raised from the foundation in the short space of 19 years. See the article CASTLE.

The castles, monasteries, and greater churches of this period, were generally covered with lead, the windows glazed; and when the walls were not of ashler, they were neatly plastered and whitewashed on both sides. The doors, floors, and roof, were commonly made of oak planks and beams, exactly smoothed and jointed, and frequently carved. It is hardly necessary to observe, that the building one of these great and magnificent castles, monasteries, or churches, of which there were many in England, must have been a work of prodigious expence and labour; and that the architects and artificers, by whom that work was planned and executed, must have attained considerable dexterity in their respective arts. Several of these architects have obtained a place in history, and are highly celebrated for their superior skill. William of Sens, architect to Archbishop Lanfranc in building his cathedral, is said, by Gervase of Canterbury, to have been a most exquisite artist both in stone and wood. He made



made not only a model of the whole cathedral, but of every particular piece of sculpture and carving, for the direction of the workmen; and invented many curious machines for loading and unloading ships, and conveying heavy weights by land, because all the stones were brought from Normandy. Matthew Paris speaks even in a higher strain of Walter of Coventry, who flourished towards the end of this period, when he says, that "so excellent an architect had never yet appeared, and probably never would appear, in the world." This encomium was undoubtedly too high; but it is impossible to view the remains of many magnificent fabrics, both sacred and civil, that were erected in this period, without admiring the genius of the architects by whom they were planned, and the dexterity of the workmen by whom they were executed.

In the beginning of the reign of Henry VIII. or rather towards the latter end of that of Henry VII. when brick building became common, a new kind of low pointed arch grew much in use: it was described from four centres, was very round at the haunches, and the angle at the top was very obtuse. This sort of arch is to be found in every one of Cardinal Wolsey's buildings; also at West Sheen; an ancient brick gate at Mile End, called *King John's Gate*; and in the great gate of the palace of Lambeth. From this time Gothic architecture began to decline; and was soon after supplanted by a mixed style, if one may venture to call it one; wherein the Grecian and Gothic, however discordant and irreconcilable, are jumbled together. Concerning this mode of building, Mr Warton, in his observations on Spenser's Faery Queene, has the following anecdotes and remarks:

"Although the Roman or Grecian architecture did not begin to prevail in England till the time of Inigo Jones, yet our communication with the Italians, and our imitation of their manners, produced some specimens of that style much earlier. Perhaps the earliest was Somerset House in the Strand, built about the year 1549, by the duke of Somerset, uncle to Edward VI. The monument of Bishop Gardiner, in Winchester cathedral, made in the reign of Mary, about 1555, is decorated with Ionic pillars. These verses of Spenser,

————— Did rise  
On stately pillars, fram'd after the Doric guise.

bear an allusion to some of the fashionable improvements in building, which at this time were growing more and more into esteem. Thus also Bishop Hall, who wrote about the same time, viz. 1598:

There findest thou some stately Doric frame,  
Or neat Ionicke work.—————

But these ornaments were often absurdly introduced into the old Gothic style: as in the magnificent portico of the schools at Oxford, erected about the year 1613; where the builder, in a Gothic edifice, has affectedly displayed his universal skill in the modern architecture, by giving us all the five orders together. However, most of the great buildings of Queen Elizabeth's reign have a style peculiar to themselves both in form and finishing; where, though much of the old Gothic is retained, and great part of the new taste is adopted, yet neither predominates; while both, thus distinctly blended, compose a fantastic species, hardly reducible to any class or name. One of its characteristics is the affectation of large and lofty windows: where, says Bacon, "you shall have sometimes fair houses so full of glass, that one cannot tell where to come to be out of the sun."

To return now to our general history, and to conclude: In the 15th and 16th centuries, when learning of all kinds began to revive, the chaste architecture of the Greeks and Romans seemed as it were to be recalled into life. The first improvements in it began in Italy, and owed their existence to the many ruins of the ancient Roman structures that were to be found in that country; from whence an improved method of building was gradually brought into the other countries of Europe: and though the Italians for a long time retained the superiority as architects over the other European nations; yet, as men of genius travelled from all quarters into Italy, where they had an opportunity of seeing the originals from whence the Italians copied, architects have arisen in other nations equal, if not superior, to any that ever appeared in Italy. Of this we have a recent instance in our own countryman Mr Mylne, who lately gained the prize in architecture at Rome, where it would no doubt be disputed by such natives of Italy as were best skilled in that art.

## PART I. PRINCIPLES OF ARCHITECTURE.

MANY ages must have elapsed before architecture came to be considered as a fine art. Utility was its original destination, and still continues to be its principal end. Experience, however, has taught us, that architecture is capable of exciting a variety of agreeable feelings. Of these, utility, grandeur, regularity, order, and proportion, are the chief.

Architecture, being an useful as well as a fine art, leads us to distinguish buildings, and parts of buildings, into three kinds, viz. what are intended for use solely, what for ornament solely, and what for both. Buildings intended for utility solely, ought in every part to correspond precisely to that intention: the least devia-

tion from use, though contributing to ornament, will be disagreeable; for every work of use being considered as a mean to an end, its perfection as a mean is the capital circumstance, and every other beauty in opposition is neglected as improper. On the other hand, in such things as are intended solely for ornament, as columns, obelisks, triumphal arches, &c. beauty alone ought to be regarded. The principal difficulty in architecture lies in combining use and ornament. In order to accomplish these ends, different and even opposite means must be employed; which is the reason why they are so seldom united in perfection; and hence, in buildings of this kind, the only practicable method is,

<sup>25</sup>  
Distinction  
of build-  
ings.



<sup>Principles.</sup> to prefer utility to ornament according to the character of the building: in palaces, and such buildings as admit of a variety of useful contrivance, regularity ought to be preferred; but in dwelling houses that are too small for variety of contrivance, utility ought to prevail, neglecting regularity as far as it stands in opposition to convenience.

<sup>24</sup> Intrinsic and relative beauty. In considering attentively the beauty of visible objects, we discover two kinds. The first may be termed *intrinsic* beauty, because it is discovered in a single object, without relation to any other. The second may be termed *relative* beauty, being founded on a combination of relative objects. Architecture admits of both kinds. We shall first give a few examples of *relative* beauty.

The proportions of a door are determined by the use to which it is destined. The door of a dwelling house, which ought to correspond to the human size, is confined to seven or eight feet in height and three or four in breadth. The proportions proper for a stable or coachhouse are different. The door of a church ought to be wide, in order to afford an easy passage for a multitude; and its height must be regulated by its wideness, that the proportion may please the eye. The size of the windows ought always to be proportioned to that of the room they are destined to illuminate; for if the apertures be not large enough to convey light to every corner, the room must be unequally lighted, which is a great deformity. Steps of stairs should likewise be accommodated to the human figure, without regarding any other proportion; they are accordingly the same in large and in small buildings, because both are inhabited by men of the same size.

We shall next consider *intrinsic* beauty, blended with that which is *relative*. A cube itself is more agreeable than a parallelepipedon; this constantly holds in small figures: but a large building in the form of a cube is lumpish and heavy; while a parallelepipedon, set on its smaller base, is more agreeable on account of its elevation: Hence the beauty of Gothic towers. But if this figure were to be used in a dwelling house, to make way for relative beauty, we would immediately perceive that utility ought chiefly to be regarded; and this figure, inconvenient by its height, ought to be set on its larger base: the loftiness in this case would be lost; but that loss will be more than sufficiently compensated by the additional convenience. Hence the form of buildings spread more upon the ground than raised in height, is always preferred for a dwelling house.

<sup>25</sup> Internal divisions of houses. With regard to the internal divisions, utility requires that the rooms be rectangular, to avoid useless spaces. An hexagonal figure leaves no void spaces; but it determines the rooms to be all of one size, which is both inconvenient and disagreeable for want of variety. Though a cube be the most agreeable figure, and may answer for a room of a moderate size; yet, in a very large room, utility requires a different figure. Unconfined motion is the chief convenience of a great room; to obtain this the greatest length that can be had is necessary. But a square room of large size is inconvenient. It removes chairs, tables, &c. at too great a distance from the hand, which, when unemployed, must be ranged along the sides of the room. Utility, therefore, requires a large room to be a paral-

lelogram. This figure is likewise best calculated for the admission of light; because, to avoid cross lights, all the windows ought to be in one wall; and if the opposite wall be at such a distance as not to be fully lighted, the room must be obscure. The height of a room exceeding nine or ten feet has little relation to utility; therefore proportion is the only rule for determining the height when above that number of feet.

Artists who deal in the beautiful, love to entertain the eye; palaces and sumptuous buildings, in which *intrinsic* beauty may be fully displayed, give them an opportunity of exerting their taste. But such a propensity is peculiarly unhappy with regard to private dwelling houses; because, in these, relative beauty cannot be displayed to perfection without hurting *intrinsic* beauty. There is no opportunity for great variety of form in a small house; and in edifices of this kind, internal convenience has not hitherto been happily adjusted to external regularity. Perhaps an accurate coincidence in this respect is beyond the reach of art. Architects, however, constantly split upon this rock; for they never can be persuaded to give over attempting to reconcile these two incompatibles: how otherwise should it happen, that of the endless variety of private dwelling houses, there should not be one found that is generally agreed upon as a good pattern? the unwearied propensity to make a house regular as well as convenient obliges the architect, in some articles, to sacrifice convenience to regularity, and, in others, regularity to convenience; and accordingly the house which turns out neither regular nor convenient, never fails to displease.

Nothing can be more evident, than that the form of a dwelling house ought to be suited to the climate; yet no error is more common than to copy in Britain the form of Italian houses, not forgetting even those parts that are purposely contrived for collecting air, and for excluding the sun; witness our colonnades and logios, designed by the Italians to gather cool air, and exclude the beams of the sun, conveniences which the climate of this country does not require.

We shall next view architecture as one of the fine arts; which will lead us to the examination of such buildings, and parts of buildings, as are calculated solely to please the eye. Variety prevails in the works of nature; but art requires to be guided by rule and compass. Hence it is, that in such works of art as imitate nature, the great art is, to hide every appearance of art; which is done by avoiding regularity and indulging variety. But in works of art that are original and not imitative, such as architecture, strict regularity and uniformity ought to be studied, so far as consistent with utility.

Proportion is not less agreeable than regularity and uniformity; and therefore, in buildings intended to please the eye, they are all equally essential. It is taken for granted by many writers, that in all the parts of a building there are certain strict proportions which please the eye, in the same manner as in found there are certain strict proportions which please the ear; and that, in both, the slightest deviation is equally disagreeable. Others seem to relish more a comparison between proportion in numbers and proportion in quantity; and maintain, that the same proportions are agreeable in both. The proportions, for example, of the num-

Principles.

<sup>26</sup> Utility and beauty often incompatible.

<sup>27</sup> Architecture considered as a fine art.

<sup>28</sup> Difference between proportions of number and quantity.

bers.



Principles.

bers 16, 24, and 36, are agreeable; and so, say they, are the proportions of a room, whose height is 16 feet, the breadth 24, and the length 36. But it ought to be considered, that there is no resemblance or relation between the objects of different senses. What pleases the ear in harmony, is not the proportion of the strings of the instrument, but of the sound which these strings produce. In architecture, on the contrary, it is the proportion of different quantities that pleases the eye, without the least relation to sound. The same thing may be said of numbers. Quantity is a real quality of every body; number is not a real quality, but merely an idea that arises upon viewing a plurality, of things in succession. An arithmetical proportion is agreeable in numbers; but have we from this any reason to conclude, that it must also be agreeable in quantity; At this rate, a geometrical proportion, and many others, ought also to be agreeable in both. A certain proportion may coincide in quantity and number; and amongst an endless variety of proportions, it would be wonderful if there never should be a coincidence. One example is given of this coincidence in the numbers 16, 24, and 36; but to be convinced that it is merely accidental, we need but reflect, that the same proportions are not applicable to the external figure of a house, and far less to a column.

It is ludicrous to observe writers acknowledging the necessity of accurate proportions, and yet differing widely about them. Laying aside reasoning and philosophy, one fact universally agreed on ought to have undeceived them, that the same proportions which please in a model are not agreeable in a large building: a room 48 feet in length, and 24 in breadth and height, is well proportioned: but a room 12 feet wide and high, and 24 long, approaches to a gallery.

29  
Beauty arising from proportion.

Perrault, in his comparison of the ancients and moderns, goes to the opposite extreme; maintaining, that the different proportions assigned to each order of columns are arbitrary, and that the beauty of these proportions is entirely the effect of custom. But he should have considered, that if these proportions had not originally been agreeable, they could never have been established by custom.

For illustrating this point, we shall add a few examples of the agreeableness of different proportions. In a sumptuous edifice, the capital rooms ought to be large, otherwise they will not be proportioned to the size of the building; for the same reason, a very large room is improper in a small house. But in things thus related, the mind requires not a precise or single proportion, rejecting all others; on the contrary, many different proportions are equally agreeable. It is only when a proportion becomes loose and distant, that the agreeableness abates, and at last vanishes. Accordingly, in buildings, rooms of different proportions are found to be equally agreeable, even where the proportion is not influenced by utility. With regard to the proportion the height of a room should bear to the length and breadth, it must be extremely arbitrary, considering the uncertainty of the eye as to the height of a room when it exceeds 16 or 17 feet. In columns, again, every architect must confess that the proportion of height and thickness varies betwixt eight diameters and 10, and that every proportion between these two extremes is agreeable. Besides, there must certainly be

a further variation of proportion, depending on the size of the column. A row of columns 10 feet high, and a row twice that height, require different proportions: The intercolumniations must also differ in proportion according to the height of the row.

Proportion of parts is not only itself a beauty, but is inseparably connected with a beauty of the highest relish, that of concord and harmony; which will be plain from what follows: A room, the parts of which are all finely adjusted to each other, strikes us not only with the beauty of proportion, but with a pleasure far superior. The length, the breadth, the height, the windows, raise each of them a separate emotion: These emotions are similar; and, though faint when separately felt, they produce in conjunction the emotion of concord or harmony, which is very pleasant. On the other hand, where the length of a room far exceeds the breadth, the mind, comparing together parts so intimately connected, immediately perceives a disagreement or disproportion which disgusts. Hence a long gallery, however convenient for exercise, is not an agreeable figure of a room.

In buildings destined chiefly or solely to please the eye, regularity and proportion are essentially necessary, because they are the means of producing intrinsic beauty. But a skilful artist will not confine his view to regularity and proportion; he will also study congruity, which is perceived when the form and ornaments of a structure are suited to the purpose for which it is appointed. Hence every building ought to have an expression suited to its destination. A palace ought to be sumptuous and grand; a private dwelling, neat and modest; a playhouse, gay and splendid; and a monument, gloomy and melancholy. A heathen temple has a double destination: It is considered as a house dedicated to some divinity; therefore it ought to be grand, elevated, and magnificent: It is also considered as a place of worship; and therefore ought to be somewhat dark and gloomy, because dimness or obscurity produces that tone of mind which is favourable to humility and devotion. Columns, besides their chief destination of being supports, contribute to that peculiar expression which the destination of a building requires. Columns of different proportions serve to express loftiness, lightness, &c. as well as strength. Situation may also contribute to expression: Conveniency regulates the situation of a private dwelling-house; and the situation of a palace ought to be lofty. This leads to a question, Whether the situation, where there happens to be no choice, ought, in any measure, to regulate the form of the edifice? The connexion between a great house and a neighbouring field, though not extremely intimate, demands, however, some congruity. It would, for example, displease us to find an elegant building thrown away upon a wild uncultivated country: congruity requires a polished field for such a building. The old Gothic form of building was well suited to the rough uncultivated regions where it was invented; but was very ill adapted to the fine plains of France and Italy.

The external structure of a house leads naturally to its internal structure. A large and spacious room, which is the first that commonly receives us, is a contrivance in several respects. In the first place, when immediately from the open air we step into such

Principles.

30  
Form of structures to be suited to the purposes for which they are intended.31  
Internal division of houses.



**Principles.** a room, its size in appearance is diminished by contrast; it looks little, compared with the great canopy of the sky. In the next place, when it recovers its grandeur, as it soon doth, it gives a diminutive appearance to the rest of the house; passing from it, every apartment looks little. In the third place, by its situation it serves only for a waiting room, and a passage to the principal apartments. Rejecting therefore this form, a hint may be taken from the climax in writing for another that appears more suitable: A handsome portico, proportioned to the size and fashion of the front, leads into a waiting room of a larger size, and this to the great room, all by a progression of small to great.

Grandeur is the principal emotion that architecture is capable of raising in the mind: it might therefore be the chief study of the artist, in great buildings destined to please the eye. But as grandeur depends partly on size, it is unlucky for architecture that it is governed by regularity and proportion, which never deceive the eye by making objects appear larger than they are in reality. But though regularity and proportion contribute nothing to grandeur, so far as that emotion depends on size; yet they contribute greatly to it by confining the size within such bounds that it can be taken in and examined at one view; for when objects are so large as not to be comprehended but in parts, they tend rather to distract than satisfy the mind.

We shall next pass to such ornaments as contribute to give buildings a peculiar expression. It has been doubted, whether a building can regularly admit any ornament but what is useful, or at least has that appearance. But, considering the double aim of architecture as a fine, as well as an useful art, there is no reason why ornaments may not be added to please the eye, without any relation to utility. A private dwelling house, it is true, and other edifices, where use is the chief aim, admit not regularly any ornament but what has at least the appearance of use; but temples, triumphal arches, and other buildings, intended chiefly or solely for show, may be highly ornamented.

32  
Different  
kinds of or-  
naments.

This suggests a division of ornaments into three kinds, viz. 1. Ornaments that are beautiful without relation to use; such as statues, vases, basso or alto relievo: 2. Things in themselves not beautiful, but possessing the beauty of utility, by imposing on the spectator, and appearing to be useful; such as blind windows: 3. Where things are beautiful in themselves, and at the same time take on the appearance of use; such as pilasters.

With regard to the *first*, we naturally require that a statue be so placed, as to be seen in every direction, and examined at different distances. Statues, therefore, are properly introduced to adorn the great stair that leads to the principal door of a palace, or to lessen the void between pillars. But a niche in the external front is an improper place for a statue. There is an additional reason against placing them upon the roof or top of the walls: their ticklish situation gives pain, as they have the appearance of being in danger of tumbling down; besides, we are inclined to feel from their being too much exposed to the inclemencies of the weather. To adorn the top of the wall

**Principles.** with a row of vases, is an unhappy conceit, by placing a thing, whose natural destination is utility, where it cannot have even the appearance of use. As to carvings upon the external surface of a building, termed *basso relievo* when flat, and *alto relievo* when prominent, all contradictory expressions ought to be avoided. Now, firmness and solidity being the proper expressions of a pedestal, and, on the contrary, lightness and delicacy of carved work, the pedestal, whether of a column or of a statue, ought to be sparingly ornamented. The ancients never ventured any bolder ornament than the basso relievo.

With respect to ornaments of the *second* kind, it is a great blunder to contrive them so as to make them appear useless. A blind window, therefore, when necessary for regularity, ought to be so disguised as to appear a real window: when it appears without disguise, it is disgusting, as a vain attempt to supply the want of invention; it shows the irregularity in a stronger light, by signifying that a window ought to be there in point of regularity, but that the architect had not skill sufficient to connect external regularity with internal convenience.

As to the *third*, it is an error to sink pilasters so far into the wall, as to remove totally, or mostly, the appearance of use. They should always project so much from the wall, as to have the appearance of supporting the entablature over them.

From ornaments in general, we descend to a pillar, <sup>33</sup> Columns. the chief ornament in great buildings. The destination of a pillar is to support, really, or in appearance, another part, termed the *entablature*. With regard to the form of a pillar, it must be observed, that a circle is a more agreeable figure than a square, a globe than a cube, and a cylinder than a parallelopipedon. This last, in the language of architecture, is saying, that a column is a more agreeable figure than a pilaster; and for that reason it ought to be preferred, when all other circumstances are equal. Another reason concurs, that a column annexed to a wall, which is a plain surface, makes a greater variety than a pilaster. Besides, pilasters at a distance are apt to be mistaken for pillars; and the spectator is disappointed, when, on a nearer approach, he discovers them to be only pilasters.

As to the parts of a column, a bare uniform cylinder, without a capital, appears naked; and without a base, appears too ticklishly placed to stand firm; it ought therefore to have some finishing at the top and bottom: Hence the three chief parts of a column, the shaft, the base, and the capital. Nature undoubtedly requires proportion among these parts, but it admits of variety of proportion. Vitruvius and some of the elder writers seem to think, that the proportions of columns were derived from the human figure, the capital representing the head, the base the feet, and the shaft the body. The Tuscan has been accordingly denominated the *Gigantic*; the Doric, the *Herculean*; the Ionic, the *Matronal*; and the Corinthian, the *Virginal*;—The Composite is a mixture of the Corinthian and Ionic. As to the base, the principle of utility interposes to vary it from the human figure, and to proportion it so to the whole, as to give the column the appearance of stability.

Among the Greeks, we find only three orders of <sup>34</sup> Whether new orders can be invented. columns, the Doric, the Ionic, and the Corinthian, distinguished



Principles. distinguished from each other by their destination as well as by their ornaments. It has been disputed, whether any new order can be added to these: some hold the affirmative, and give for instances the Tuscan and Composite: others maintain, that these properly are not distinct orders, but only the original orders, with some slight variation. The only circumstances that can serve to distinguish one order from another, are the form of the column, and its destination. To make the first a distinguishing mark, without regard to the other, would multiply orders without end. Destination is more limited, and it leads us to distinguish three kinds of orders; one plain and strong, for the purpose of supporting plain and massy buildings; one delicate and graceful, for supporting buildings of that character; and between these, a third, for supporting buildings of a mixed nature. So that, if destination alone is to be regarded, the Tuscan is of the same order with the Doric, and the Composite with the Corinthian.

The ornaments of these three orders ought to be suited to the purposes for which they are intended. Plain and rustic ornaments would not be a little discordant with the elegance of the Corinthian order, and sweet and delicate ornaments not less with the strength of the Doric.

35  
Rules re-  
garding  
buildings in  
general.

With respect to buildings of every kind, one rule, dictated by utility, is, that they be firm and stable. Another, dictated by beauty, is, that they also appear so to the eye: for every thing that appears tottering, and in hazard of tumbling down, produceth in the spectator the painful emotion of fear, instead of the pleasing emotion of beauty; and accordingly it should be the great care of the artist, that every part of his edifice appear to be well supported. Some have introduced a kind of conceit in architecture, by giving parts of buildings the appearance of falling; of this kind is the church of St Sophia in Constantinople; the round towers in the uppermost stories of Gothic buildings are in the same false taste.

The most considerable ornaments used in architecture are five orders of columns, pediments, arches, ballusters, &c. of which in the following chapters.

#### CHAP. I. Of the Orders of Architecture.

AN order consists of two principal members, the COLUMN and the ENTABLATURE; each of which is composed of three principal parts. Those of the columns are, the *Base*, the *Shaft*, and the *Capital*; and those of the Entablature are, the *Architrave*, the *Frize* and the *Cornice*. All these are subdivided into many lesser parts, whose number, form, and dimensions, characterize each order, and express the degree of strength, delicacy, richness, or simplicity peculiar to it.

36  
Parts of an  
order divid-  
ed into two  
classes.

The parts that compose an order may be distributed into two different classes. In the *first* may be ranged all that have any analogy to the primitive huts, and represent some part that was necessary in their construction. Such are the shaft of the column, with the plinth of its base, and the abacus of its capital; likewise the architrave and triglyphs, the mutules, modillions, or dentiles, which all of them represent the rafters, or some other pieces of timber used to sup-

port the covering; and the corona, representing the beds of materials that composed the covering. All these may properly be distinguished by the name of *essential members*. The subservient parts, contrived for the use or ornaments of the former, and commonly called *mouldings*, may constitute the *second class*.

There are eight regular mouldings in ornamenting columns: the fillet, listel, or square; the astragal, or bead; the torus, or tore; the scotia, mouth, or casket; the echinus, ovolo, or quarter-round; the inverted cyma, talon, or ogee; the cyma, cyma recta, or cymation; the cavetto, or hollow. The names of these allude to their forms, and their forms are adapted to the purposes for which they are intended. See Plate XLII.

The ovolo and talon, as they are strong at the extremities, are fit for supports; the cyma and cavetto, though improper for supports, serve for coverings to shelter other members; the torus and astragal, being shaped like ropes, are intended to bind and fortify the parts with which they are connected: But the use of the scotia and fillet is only to separate and distinguish the other mouldings, to give a graceful turn to the profile, and to prevent the confusion which would arise from joining several curved members together.

There are various methods of describing the contours of mouldings; but the simplest and best is to form them of quadrants of circles.

An assemblage of what are called essential parts and mouldings is termed a *profile*. The most perfect profiles are such as are composed of few mouldings, varied in form and size; and so disposed, that the straight and curved ones succeed each other alternately. When ornaments are employed in mouldings, some of them should be left plain, in order to give a proper repose: For when all are ornamented, the figure of the profile is lost.

Columns, in imitation of trees, from which they drew their origin, are tapered in their shafts. In the antiques the diminution is variously performed: beginning sometimes from the foot of the shaft, and at others from one quarter, or one-third of its height; the lower part being perfectly cylindrical. The former of these was most in use amongst the ancients, and being the most natural and graceful, ought to have the preference, though the latter hath been more universally practised by modern artists.

The first architects, says M. Auzoult, probably made their columns in straight lines, in imitation of trees; so that their shaft was a frustum of a cone: but finding this form abrupt and disagreeable, they made use of some curve, which, springing from the extremities of the superior and inferior diameters of the column, swelled beyond the sides of the cone, and by that means gave a more pleasing figure to the contour.

Vitruvius, in the second chapter of his third book, mentions this practice, but in so obscure and cursory a manner, that his meaning hath not been understood; and several of the modern architects, intending to conform themselves to his doctrine, have made the diameters of their columns greater in the middle than at the foot of the shaft. Leon Baptista, Alberti, and others of the Florentine and Roman architects, have carried

Principles.

37  
Profile,  
what.

38  
Diminu-  
tion of co-  
lumnas.



**Principles.** carried this to a very great excess; for which they have been justly blamed, as it is neither natural, reasonable, nor beautiful.

Monsieur Auzoult observes, that a column, supposing its shafts to be the frustum of a cone, may have an additional thickness in the middle, without being swelled there beyond the bulk of its inferior parts; and supposes the addition mentioned by Vitruvius to signify nothing but the increase towards the middle of the column, occasioned by changing the straight line, which at first was in use, for a curve.

This supposition is extremely just, and founded on what is observed in the works of antiquity; where there is no instance of columns thicker in the middle than at the bottom, though all have the swelling hinted at by Vitruvius, all of them being terminated by curves; some granite columns excepted, which are bounded by straight lines; a proof, perhaps, of their antiquity, or of their having been wrought in the quarries of Egypt by bungling and unskilful workmen.

Monsieur Blondel, in his book entitled *Resolution des quatre principaux problemes d'Architecture*, teaches various manners of diminishing columns; the best and simplest of which is by means of the instrument which Nicomedes invented to describe the first conchoid: for this, being applied at the bottom of the shaft, performs at one sweep both the swelling and the diminution; giving such a graceful form to the column, that it is universally allowed to be the most perfect practice hitherto discovered. The columns in the Pantheon, accounted the most beautiful among the antiques, are made in this manner; as appears by the exact measures of one of them to be found in Desgodet's antiquities of Rome.

39  
Vignola's  
method.

To give an accurate idea of the operation, it will be necessary first to describe Vignola's method of diminution, on which it is grounded. "As to this second method, says Vignola, it is a discovery of my own, and although it be less known than the former, it will be easily comprehended by the figure. Having therefore determined the measures of your column, (that is to say, the height of the shaft, and its inferior and superior diameters), draw a line indefinitely from C through D, perpendicular to the axis of the column: this done, set off the distance CD, which is the inferior semi-diameter, from A, the extreme point of the superior semi-diameter, to B, a point in the axis; then from A, through B, draw the line ABE, which will cut the indefinite line CD in E; and, from this point of intersection E, draw through the axis of the column any number of rays, as E b a, on each of which, from the axis towards the circumference, setting off the interval CD, you may find any number of points, a, a, a, through which if a curve be drawn, it will describe the swelling and diminution of the column."

Plate  
XXXVII.

40  
Nicomedes's  
instrument.

Though this method be sufficiently accurate for practice, especially if a considerable number of points be found, yet strictly speaking, it is defective; as the curve must either be drawn by hand, or by applying a flexible ruler to all the points; both of which are liable to variations. Blondel therefore, to obviate this objection, (after having proved the curve passing from A to C through the points a, a, to be of the same nature with the first conchoid of the ancients), employed

the instrument of Nicomedes to describe it; the construction of which is as follows:

**Principles.**

Having determined, as above, the length of the shaft, with the inferior and superior diameters of the column, and having likewise found the length of the line CDE, take three rulers, either of wood or metal, as FG, ID, and AH; of which let FG and ID be fastened together at right angles in G. Cut a dove-tail groove in the middle of FG, from top to bottom; and at the point E on the ruler ID (whose distance, from the middle of the groove in FG, is the same as that of the point of intersection from the axis of the column) fix a pin; then on the ruler AH set off the distance AB, equal to CD the inferior semi-diameter of the column, and at the point B fix a button, whose head must be exactly fitted to the groove made in FG, in which it is to slide; and, at the other extremity of the ruler AH, cut a slit or canal from H to K, whose length must not be less than the difference of length between EB and ED, and whose breadth must be sufficient to admit the pin fixed at E, which must pass through the slit, that the ruler may slide thereon.

The instrument being thus completed, if the middle of the groove, in the ruler FG, be placed exactly over the axis of the column, it is evident that the ruler AH, in moving along the groove, will with the extremity A describe the curve A a a C; which curve is the same as that produced by Vignola's method of diminution, supposing it done with the utmost accuracy; for the interval AB, a b, is always the same; and the point E is the origin of an infinity of lines, of which the parts BA, ba, ba, extending from the axis to the circumference, are equal to each other and to DC. And if the rulers be of an indefinite size, and the pins at E and B be made to move along their respective rulers, so that the intervals AB and DE may be augmented or diminished at pleasure, it is likewise evident that the same instrument may be thus applied to columns of any size.

In the remains of antiquity the quantity of the diminution is various; but seldom less than one eighth of the inferior diameter of the column, nor more than one sixth of it. The last of these is by Vitruvius esteemed the most perfect.

41  
Quantity of  
diminution.

#### Of the TUSCAN ORDER.

This is the most solid and simple of all the orders. It is composed of few parts, devoid of ornaments, and so massy, that it seems capable of supporting the heaviest burden. There are no remains of a regular Tuscan order among the antiques: the doctrine of Vitruvius concerning it is obscure; and the profiles of Palladio, Scamozzi, Serlio, de l'Orme and Vignola, are all imperfect.

42  
Plate  
XXXIX.

The height of the Tuscan column is 14 modules, or semi-diameters, each consisting of 30 minutes; and that of the whole entablature  $3\frac{1}{2}$  modules; which being divided into 10 equal parts, three of them are for the height of the architrave, three for the frieze, and the remaining four for the cornice. The capital is one module; the base, including the lower cincture of the shaft is likewise one module; and the shaft, with its upper cincture and astragal, 12 modules.

These are the general dimensions of the order; the particular



**Principles.** particular dimensions may be learned by inspection of the plates.

In the remains of antiquity, the quantity of diminution at the top of the Tuscan column is various; but seldom less than one-eighth, nor more than one-sixth, of the inferior diameter of the column. The last of these is generally preferred; and Chalmers and others make the same diminution in all columns, without regard to their order.

#### Of the DORIC Order.

<sup>43</sup>  
Plate XL. This order is next in strength to the Tuscan; and being of a grave, robust, and masculine aspect, is by Scamozzi called the *Herculean*. As it is the most ancient of all the orders, it retains more of the structure of the primitive huts than any of the rest; the triglyphs in its frieze representing the ends of the joists, and the mutules in its cornice representing the rafters.

The height of the Doric column, including its capital and base, is 16 modules, and the height of the entablature four; the latter of which being divided into eight parts, two of them are for the architrave, three for the frieze, and three for the cornice.

In most of the antiques, the Doric column is executed without a base. Vitruvius likewise makes it without one; the base, according to him, having been first employed in the Ionic order, in imitation of the sandal of a woman's foot. Scamozzi blames this practice, and most of the modern architects are of his opinion.

<sup>44</sup>  
Ornaments of the frieze. In the profile of the theatre of Marcellus, the frieze is enriched with husks and roses; the architrave consists only of one fascia and a fillet; the drops are conical; the metope is enriched with a bull's skull, adorned with a garland of beads, in imitation of those on the temple of Jupiter Tonans, at the foot of the Capitol. In some antique fragments, and in a great many modern buildings, the metopes are alternately adorned with ox skulls and pateras. But they may be filled with any other ornaments, according to the destination of the building.

#### The IONIC Order

<sup>45</sup>  
Plate XLII. Is of a more slender make than the Doric or Tuscan; its appearance is simple, yet graceful and majestic; its ornaments are few: so that it has been compared to a sedate matron, in decent, rather than magnificent, attire.

Among the ancients, the form of the Ionic profile appears to have been more positively determined than that of any other order; for in all the antiques at Rome (the temple of Concord excepted), it is exactly the same.

The modern artists have likewise been unanimous in their opinions; all of them, excepting Palladio and his imitators, having employed the dentil, cornice, and the other parts of the profile, nearly as they are found in the Coliseum, the temple of Fortune, and the theatre of Marcellus.

The height of the Ionic column is 18 modules, and that of the entablature  $4\frac{1}{2}$ , or one quarter of the height of the column, as in the other orders, which is a trifle less than in any of the antique Ionics. In all the antiques, the base is Attic; and the shaft of the column

may either be plain, or fluted with 24 flutings, or 20 only, as in the temple of Fortune. The plan of the flutings may be a trifle more than a semicircle, as in the forum of Nerva, because they then appear more distinct. The fillets, or intervals between them, must not be broader than one-third of the breadth of a fluting, nor narrower than one-fourth. The ornaments of the capital must correspond with the flutings of the shaft; and there must be an ove above the middle of each fluting. The volutes ought to be traced according to Mr Goldman's method, which is as follows:

<sup>46</sup>  
Plate XLII. fig. 9. Draw the cathetus, FC, whose length must be 15 minutes, or one-fourth of a module: and from the point C, describe the eye of the volute AEBD, of which the diameter is to be  $6\frac{2}{7}$  minutes; divide it into four equal sectors by the diameters AB, DE. Bisect the radii CA, CB, in 1 and 4; and on the line 1, 4, construct a square, 1, 2, 3, 4. From the centre C, to the angles 2, 3, draw the diagonals C 2, C 3, and divide the side of the square 1, 4, into six equal parts, at 5, 9, C, 12, 8. Then through the points, 5, 9, 12, 8, draw the lines 5, 6, 9, 10, 12, 11, 8, 7, parallel to the diameter ED, which will cut the diagonals in 6, 7, 10, 11, and the points, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, will be the centres of the volute. From the first centre 1, with the distance 1 F, describe the quadrant FG; from the second centre 2, with the distance 2 G, describe the quadrant GH; and continuing the same operation from all the 12 centres, the contour of the volute will be completed.

Fig. 10. The centres for describing the fillet are found in this manner. Construct a triangle, of which the side AF is equal to the part of the cathetus contained between AF and the side FV, equal to C 1; place the distance FS from F towards A, equal to FS the breadth of the fillet, and through the point S draw the line ST, which will be to C 1 in the same proportion as AS is to AF; place this line on the diameter of the eye AB: divide it into three equal parts; and through the points of division, draw lines parallel to the diameter ED, which will cut the diagonals C 2, C 3, and you will have twelve new centres, from whence the interior contour of the fillet may be described in the same manner as the exterior one was from the first centres.

#### Of the CORINTHIAN Order.

The proportions of this order are extremely delicate. It is divided into a great variety of members, and enriched with a profusion of ornaments. Scamozzi calls it the *virginal order*; and indeed it has all the delicacy in its make, and all the delicacy in its dress, peculiar to young girls.

The most perfect model of the Corinthian order is generally allowed to be in the three columns in the Campo Vaccino at Rome, the remains, as it is thought, of the temple of Jupiter Stator.

The Corinthian column should be 20 modules high, and the entablature 5; which proportions are a medium between those of the Pantheon and the three columns. The base of the column may be either Attic or Corinthian: They are both beautiful. If the entablature be enriched, the shaft may be fluted. The flutings may be filled, to one-third of their height, with cabblings, as in the inside of the Pantheon; which will strengthen



<sup>Principles.</sup> strengthen the lower part of the column, and make it less liable to injury.

In most of the antiques at Rome, the capital of this order is enriched with olive leaves; the acanthus being seldom employed but in the Composite. De Cordemoy, however, prefers the acanthus.

The divisions of the entablature bear the same proportions to each other, as the Tuscan, Ionic, and Composite orders.

#### The COMPOSITE

<sup>48</sup> Plate XLIV. Is, strictly speaking, only a species of the Corinthian; and therefore retains, in a great measure, the same character.

<sup>49</sup> Different kinds of ornaments. It does not appear that the ancients affected any particular form of entablature to this order. Sometimes the cornice is entirely plain, as in the temple of Bacchus; at others, as in the arch of Septimius Severus, it is enriched with dentils differing very little from the Ionic; and in the arch of Titus, there are both dentils and modillions; the whole form of the profile being the same with the Corinthian, as executed in the antiques at Rome.

The modern architects have varied more in this than in any other order, each following the bent of his own fancy.

The height of the Composite column, and parts of the entablature, is the same with that of the Corinthian. The foot of the leaves of the capital ought not to project beyond the upper part of the shaft. The different bunches of leaves should be strongly marked; the sprigs which arise between the upper ones should be kept flat upon the vase; and the ornaments of the volutes must not project beyond the fillets that enclose them.

#### CHAP. II. Of Pilasters.

<sup>50</sup> THESE differ from columns only in their plan; which is a square, as that of columns is round. Their bases, capitals and entablatures, have the same parts, with the same heights and projections, as those of columns: they are also distinguished in the same manner, by the names of Tuscan, Doric, Ionic, Corinthian, and Composite.

The column is undoubtedly more perfect than the pilaster. However, they may be employed with great propriety on many occasions. Some authors declaim against pilasters, because, according to them, they do not admit of diminution. But this is a mistake; there are many instances in the remains of antiquity, of their being diminished. Scamozzi always gave his pilasters the same diminution as his columns: Palladio and Inigo Jones have likewise diminished them in many of their buildings.

<sup>51</sup> Pilasters, where useful. Pilasters are employed in churches, galleries, halls, and other interior decorations, to save room; for, as they seldom project beyond the solid wall above one quarter of their diameter, they do not occupy near so much space as columns. They are likewise used in exterior decorations; sometimes alone, instead of columns, on account of their being less expensive; and sometimes they accompany columns, being placed behind them to support the architraves, where they enter the building, as in the Pantheon at Rome; or,

in the same line with them, to fortify the angles, as <sup>Principles.</sup> in the portico of Septimius.

When pilasters are used alone, they should project one quarter of their diameter beyond the walls. When placed behind columns, especially if they be very near them, they need not project above one-eighth of their diameter. But, when placed on a line with columns, their projection must be regulated by that of the columns; and consequently, it can never be less than a semidiameter, even when the columns are engaged as much as possible.

The shafts of pilasters are frequently adorned with <sup>52</sup> How ornamented. flutings, in the same manner as those of columns; the plan of which may be a trifle more than a semicircle; their number must be seven on each face, which makes them nearly of the same size with those of columns. The intervals, or fillets, must either be one-third or one-fourth of the fluting in breadth.

The capitals of pilasters are profiled nearly in the <sup>Plate XLV.</sup> same manner as those of columns.

#### CHAP. III. Of Attics.

<sup>53</sup> THESE very properly follow the pilasters; being nothing more than square pillars with their cornices. They had their origin in Athens, where it was for many ages a rule in building to conceal the roof. For this purpose, nothing served so well as a kind of low or little order ranged in a continued line, singly, or with the interruption of ballusters; which, rising above the rest of the work and before the roof, hid it perfectly, and placed something agreeable in view. The place of Attics, therefore, is at the uppermost extremity of a building, to which they serve as a crown, or very properly make a finishing for the other orders when they have been used in the structure. They must never stand under any thing except such ornaments as are placed at the very top. These Attics should never exceed in height one-third of the height of the order on which they are placed, nor be less than one quarter of it. The base, dye, and cornice, of which they are composed, may bear the same proportions to each other as those of pedestals do; and the base and cornice may be composed of the same mouldings as those pedestals. Sometimes the Attic is continued throughout; at others, it projects, and forms a pilaster over each column of the order. The breadth of this pilaster is seldom made narrower than the upper diameter of the column below it, and never broader. Its projection may be equal to one quarter of its breadth.

#### CHAP. IV. Of Persians, Caryatides, and Termini.

<sup>54</sup> BESIDES columns and pilasters, it is sometimes customary to employ representations of the human figure, to support entablatures in buildings. The male figures are called *Persians*; and the female, *Caryans*, or *Caryatides*.

<sup>55</sup> Origin of Persians. The *Persians* are so called from a victory gained over the Persians, by Pausanias, who having brought home spoils and trophies to the Athenians, they fixed upon Persian figures for those which should support entablatures, and thus kept in mind that there were once Persian slaves in Athens. To represent these conquered



Principles.

quered people in the lowest state possible, they loaded them with the heaviest entablature, viz. that of the Doric order. In process of time, however, other figures besides those of Persians were introduced, and other entablatures put over them; but the name was still retained.

56  
Of Caryatides.

The proper Caryatides are women dressed in long robes, after the Asiatic manner; and the origin of the device was as follows:—The Carians had been long at war with the Athenians; but being at length totally vanquished, their wives were led away captives; and, to perpetuate the memory of this event, trophies were erected, in which figures of women dressed in the Caryatic manner, were used to support entablatures like the Persians; and though other female figures were afterwards used in the same manner, the name of *Caryatides* was always retained.

The ancients made frequent use of Persians and Caryatides, and delighted in diversifying them a thousand ways. The modern artists have followed their examples; and there is a great variety of compositions of this kind to be met with in different parts of Europe.

Indecent attitudes, distorted features, and all monstrous productions, ought to be avoided, of which there are many examples in Gothic buildings. On the contrary, the attitudes should be simple and graceful, the countenance always pleasing, though varied and strongly marked agreeable to the nature of the object represented.

57  
Their proportions, &c.

The Caryatides, or female figures, should never much exceed the human size. But the Persians or male figures, may be of any size; and the larger the better, as they will strike the beholder with the greater awe and astonishment. Persians may be used with propriety in arsenals, galleries of armour, &c. under the figures of captives, heroic virtues, &c. Their entablature ought to be Doric, and bear the same proportion to them as to columns of the same height. The entablature for Caryatides ought to be either Ionic or Corinthian, according as the character of the figures is more or less delicate.

58  
Termini.

Termini are sometimes employed, instead of Persians or Caryatides, to support the entablatures of monuments, chimney-pieces, and such like compositions. These figures owe their origin to the stones used by the ancients to mark the limits of particular possessions. Numa Pompilius, to render these inviolable, consecrated the terminus into a deity, and instituted festivals and sacrifices to his honour. In a short time, what were formerly only large upright stones, were represented in human shape; and afterwards introduced as ornaments to temples and other buildings. The termini are now principally used as ornaments for gardens and fields.

#### CHAP. V. Of Pedestals.

59

Most writers consider the *Pedestal* as a necessary part of the order, without which it is not complete. It is indeed a matter of little importance whether it be considered in that light, or as a distinct composition: we shall therefore treat of a pedestal as a distinct body, having no more connexion with the order than an attic, a basement, or any other part with which it may on some occasions be associated.

Principles.

A pedestal consists of three principal parts: the base, the dye, and the cornice. The dye is always nearly of the same figure; being constantly either a cube or a parallelepipedon: but the base and cornice are varied and adorned with more or fewer mouldings, according to the simplicity or richness of the composition in which the pedestal is employed. Hence pedestals are, like columns, distinguished by the names of *Tuscan*, *Doric*, *Ionic*, *Corinthian*, and *Composite*.

Some authors are averse to pedestals, and compare a column raised on a pedestal to a man mounted on stilts; where per-<sup>60</sup> imagining that they were introduced merely from necessity, and for want of columns of a sufficient length. It is indeed true, that the ancients often made use of artifices to lengthen their columns; as appears by some that are in the Baptistery of Constantine at Rome; the shafts of which, being too short for the building, were lengthened and joined to their bases by an undulated sweep, adorned with acanthus leaves. Nevertheless, there are many occasions where pedestals are evidently necessary; and some in which the order, were it not so raised, would lose much of its beautiful appearance. Thus, in the insides of churches, if the columns that support the vault were placed immediately on the ground, the seats would hide their bases and a good part of their shafts; and in the theatres of the ancients, if the columns of the scene had been placed immediately on the stage, the actors would have hid a part of them from the audience. In anterior decorations, a pedestal diminishes the parts of the order, which otherwise might perhaps appear too clumsy, and hath the advantage of placing the column in a more favourable view, by raising its base nearer the level of the spectator's eye. In a second order of arcades, there is no avoiding pedestals; as without them it is impossible to give the arches any tolerable proportion.

With regard to the proportion that pedestals ought to bear that of the columns they support, it is by no means fixed. Both the ancients and moderns vary greatly on this head. Vignola's proportions are generally reckoned the best. He makes his pedestals in all the orders of the same height, viz. one-third of the column; and as their breadth of course increases or diminishes in the same degree as the diameters of their respective columns do, the character of the order is always preserved, which, according to any other method, is impossible.

As to the divisions of the pedestals; if the whole height be divided into nine parts, one of them may be given to the height of the cornice, two to the base, and the six remaining to the dye. The breadth of the dye is always made equal to that of the plinth of the column. The projection of the cornice may be made equal to its height; and the base being divided into three parts, two of them will be for the height of the plinth, and one for the mouldings, whose projection must be less than that of the cornice. These measures are common to all pedestals. See Plate XLV.

#### CHAP. VI. Of Intercolumniations.

COLUMNS are either engaged, or insulated; and, when insulated, are either very near the wall, or at a considerable distance from it. Engaged columns, or such as are near the walls of a building, are not limited in

62



**Principles.** in their intercolumniations, as these depend on the breadths of the arches, windows, niches, or other decorations placed between the columns. But columns that are entirely detached, and perform alone the office of supporting the entablature, as in peristyles, porches and galleries, must be near each other, for the sake both of real and apparent solidity.

6  
Different intercolumniations used by the ancients.

The intercolumniations among the ancients were various. Those used in the Ionic and Corinthian orders were the pycnostyle, of which the interval was equal to one diameter and a half of the column; the systyle whose interval was equal to two diameters: the eustyle, to two and a quarter; the diastyle to three, and the aræostyle to four. In the Doric order, they used other intercolumniations, regulating them by the triglyphs, one of which was always placed directly over the middle of each column; so that they were either systyle, monotriglyph, of one diameter and a half; diastyle, of two diameters and three quarters; or aræostyle, of four diameters; and the Tuscan intervals were very wide, some of them being above seven diameters, which was very practicable, as the architraves were of wood.

Among these different intercolumniations, the pycnostyle and systyle are too narrow; for although the ancients made frequent use of them, that ought rather to be ascribed to necessity than choice. For as the architraves were composed of single stones, extending from the middle of one column to the middle of another, it would have been difficult, especially in large buildings, to find blocks of a sufficient length for diastyle intervals. With regard to the aræostyle and Tuscan intercolumniations, they are by much too wide, and can only be used in rustic buildings, where the architraves are of wood; neither is the diastyle sufficiently solid in large compositions. The eustyle is a medium between the narrow and broad intervals; and being at the same time both spacious and solid, hath been preferred to any of the rest by the ancients as well as the moderns.

64  
Used by Vignola.

Vignola observed nearly the same proportion in all his intercolumniations; which practice, though condemned by several writers, is certainly preferable to any other; as it preserves the character of each order, and maintains in all of them an equal degree of real solidity. Setting aside therefore the pycnostyle and systyle dispositions on account of their want of space, and the aræostyle for its deficiency in point of strength, it may be established, that the diastyle and eustyle intercolumniations (the latter of which on most occasions, ought to have the preference) may be employed in all the orders without distinction, excepting the Doric; in which the most perfect interval is ditriglyph; neither the monotriglyph, nor the aræostyle being to be suffered but in cases of necessity.

Sometimes, on account of the windows, doors, niches, and other decorations, which correspond with the intercolumniations of the peristyle, or gallery, it is not possible to make the intervals so narrow as eustyle, or even as diastyle: wherefore the moderns, authorized by some few examples of the ancients, where grouped columns are employed, have invented a manner of disposing them, called by Perrault *aræostyle*, which admits of a larger interval, without any detriment to the apparent solidity of the building. This

kind of composition is composed of two systyle intercolumniations; the column that separates them being approached towards one of those at the extremities, sufficient room only being left between them for the projection of the capitals; so that the great space is three diameters and a half wide, and the little one half a diameter.

In peristyles, galleries, or porticoes, all the intercolumniations must be equal; but in a loggia, or porch, the middle interval may be broader than the others, by a triglyph or modillion, or three or four dentils; unless the columns at the angles be coupled or grouped with pilasters; in which case, all the intervals should be of the same dimensions.

When buildings are very small, as is frequently the case in temples and other inventions used for ornamenting gardens, the intercolumniations may be broader, in proportion to the diameter of the columns, than usual; because, when they are nearer each other than three feet, there is hardly room for a bulky person to pass between them.

#### CHAP. VII. Of Arches.

ARCHES are not so magnificent as colonnades; but they are more solid and less expensive. They are proper for triumphal entrances, gates of cities, of palaces, of gardens, and of parks, and, in general, for all openings that require an extraordinary breadth.

There are various manners of adorning arches. Sometimes their piers are rusticated; sometimes they are adorned with pilasters, termini, or caryatides; and sometimes they are made sufficiently broad to admit niches or windows. The circular part of the arch is either surrounded with rustic key-stones, or with an archivolt enriched with mouldings; which, in the middle, is sometimes interrupted by a console, a mask, serving at the same time as a key to the arch, and as a support to the architrave of the order. The archivolt is sometimes supported by an impost, at the head of the pier; and at others by columns placed on each side of it, with a regular entablature, or architrave and cornice. There are likewise instances of arcades without piers, the arches being turned on single columns as in the temple of Faunus at Rome, &c. This practice, however, ought to be seldom imitated, as it is neither solid nor handsome.

When arches are large, the key-stone should never be omitted, but cut in the form of a console, and carried close under the soffit of the architrave, which on account of its extraordinary length, requires a support in the middle. The imposts of arches should never be omitted; at least, if they be, a platform ought to supply their place. If columns are employed without pedestals in arcades, they should always be raised on a plinth. In all arches, the circular part ought not to spring immediately from the impost, but take its rise at such a distance above it as is necessary in order to have the whole curve seen at the proper point of view.

The void or aperture of arches should never be higher nor much lower, than double their breadth; the breadth of the pier should seldom exceed two-thirds, nor be less than one-third, of the breadth of the arch; and the angular pier ought to be broader than

**Principles.**

65  
Arches, where proper.

66  
How adorned.

67  
Proportions.



Principles.

than the others, by one-half, one-third, or one-fourth; the impost should not be more than one-seventh, nor less than one-ninth of the aperture; and the archivolt must not be more than one-eighth, nor less than one-tenth of it. The breadth of the console must, at the bottom, be equal to that of the archivolt; and its sides must be drawn from the centre of the arch: the length of it must not be less than one and a half of its smallest breadth, nor more than double. The thickness of the pier depends on the breadth of the portico; for it must be strong enough to resist the pressure of its vault. But with regard to the beauty of the building, it should not be less than one quarter of the breadth of the arch, nor more than one-third. These are the general dimensions of arches.

#### CHAP. VIII. *Of Orders above Orders.*

68

WHEN, in a building, two or more orders are employed, one above another, the laws of solidity require the strongest should be placed lowermost. Hence the Tuscan must support the Doric, the Doric the Ionic, the Ionic the Composite or Corinthian, and the Composite the Corinthian.

This rule, however, is not always strictly adhered to. Most authors place the Composite above the Corinthian. There are likewise examples where the same order is repeated, as in the theatre of Statilius Taurus, and the Coliseum; and others, where an intermediate order is omitted, and the Ionic placed on the Tuscan, or the Corinthian on the Doric. But none of these practices ought to be imitated.

In placing columns above one another, the axis of all the columns ought to correspond, or be in the same perpendicular line, at least in front.

69  
Proportions of columns placed above each other.

With regard to the proportions of columns placed above each other, Scamozzi's rule, That the lower diameter of the superior column should constantly be equal to the upper diameter of the inferior one, is universally esteemed the best, and gives all the columns the appearance of one long tapering tree, cut into several pieces. According to this rule, the Doric column will be to the Tuscan, as  $13\frac{1}{2}$  to 14; the Ionic to the Doric, as 15 to 16; the Composite or Corinthian to the Ionic, as  $16\frac{2}{3}$  to 18; and the Corinthian to the Composite, as  $16\frac{2}{3}$  to 20.

In Britain there are few examples of more than two stories of columns in the same aspect; and though in Italy, and other parts of Europe, we frequently meet with three, and sometimes more; yet it is a practice by no means to be imitated; for there is no possibility of avoiding many striking inconsistencies, or of preserving the character of each order in its intercolumnial decorations.

#### CHAP. IX. *Of Basements.*

70

INSTEAD of employing several orders one above the other in a composition, the ground floor is sometimes made in the form of a *basement*, on which the order that decorates the principal story is placed. The proportion of these basements is not fixed, but depends on the nature of the rooms on the ground floor. In the palace of the Porti in Vicenza, the height of the base-

ment is equal to that of the order. In some buildings, its height exceeds two-thirds of that of the order; and, in others, only half the height of the order. It is not, however, advisable to make the basement higher than the order it supports: neither should it be lower than one half of the order.

Principles.

The usual method of decorating basements is with rustics of different kinds. The best, where neatness and finishing is aimed at, are such as have a smooth surface. Their height, including the joint, should never be less, nor much more, than half a module of the order placed on the basement. Their figure may be from a square to a sesquialtera; and their joints may be either square or chamfered. The square ones should not be broader than one-eighth of the height of the rustic, nor narrower than one-tenth; and their depth must be equal to their breadth; those that are chamfered must form a rectangle; and the breadth of the whole joint may be from one-fourth to one-third of the height of the flat surface of the rustic.

71  
Decorations, &c. of basements.

#### CHAP. X. *Of Pediments.*

PEDIMENTS, among the Romans, were used only as coverings to their sacred buildings, till Cæsar obtained leave to cover his house with a pointed roof, after the manner of temples. In the remains of antiquity we meet with two kinds of pediments, the triangular and the circular. The former of these are promiscuously applied to cover small or large bodies: But the latter, being of a heavier figure, are never used but as coverings to doors, niches, windows, or gates.

72

As a pediment represents the roof, it should never be employed but as a finishing to the whole composition.

The ancients introduced but few pediments into their buildings, usually contenting themselves with a single one to adorn the middle or principal part. But some of the moderns, and particularly the Italians, have been so immoderately fond of them, that their buildings frequently consist of almost nothing else.

The girder being a necessary part in the construction of a roof, it is an impropriety to intermit the horizontal entablature of a pediment, by which it is represented, to make room for a niche, an arch, or a window.

In regular architecture, no other form of pediments can be admitted, besides the triangular and circular. Both of them are beautiful; and when a considerable number of pediments are introduced, as when a range of windows are adorned with them, these two figures may be used alternately, as in the niches of the Pantheon, and in those of the temple of Diana at Nîmes.

73  
Forms, &c. of pediments.

The proportion of pediments depends upon their size; for the same proportions will not do in all cases.

When the base of the pediment is short, its height must be increased; and when the pediment is long, the height must be diminished. The best proportion for the height is from one-fifth to one-fourth of the base, according to the extent of the pediment, and the character of the body it covers. The materials of the roof must also be attended to; for if it be covered with tiles,



*Principles.* tiles, it will be necessary to raise it more than one quarter of the base, as was the custom of the ancients in their Tuscan temples.

The tympan is always on a line with the front of the frieze; and when large, admits of various ornaments.

### CHAP. XI. Of Ballustrades.

74 BALLUSTRADES are sometimes of real use in buildings; and at other times they are only ornamental. Such as are intended for use, as when they are employed in staircases, before windows, or to enclose terraces, &c. must always be nearly of the same height; never exceeding three feet and a half, nor ever less than three. But those that are principally designed for ornament, as when they finish a building, should be proportioned to the architecture they accompany: and their height ought never to exceed four-fifths of the height of the entablature on which they are placed; nor should it ever be less than two-thirds thereof, without counting the zocholo, or plinth, the height of which must be sufficient to leave the whole ballustrade exposed to view.

75 *Proportion, &c. of ballusters.* The best proportion for ballustrades is to divide the whole given height into thirteen equal parts; eight of these for the height of the balluster, three for the base, and two for the cornice or rail; or into fourteen, (if it be required to make the balluster less), giving eight parts to the balluster, four to the base, and two to the rail. One of these parts may be called a *module*; and being divided into nine minutes, may serve to determine the dimensions of the particular members.

In ballustrades, the distance between two ballusters should not exceed half the diameter of the balluster measured in its thickest part, nor be less than one-third of it.

The breadth of the pedestals, when they are placed on columns or pilasters, is regulated by them; the dye never being made broader than the top of the shaft, nor much narrower; and when there are neither columns nor pilasters on the front, the dye should not be much lower than a square, and seldom higher. On stairs, or any other inclined planes, the same proportions are to be observed as on horizontal ones.

### CHAP. XII. Of Gates, Doors, and Piers.

76 *Doors and Gates.* THERE are two kinds of entrances, viz. doors and gates. The former serve only for the passage of persons on foot; but the latter likewise admit horsemen and carriages. Doors are used as entrances to churches and other public buildings, to common dwelling-houses, and apartments: And gates serve for inlets to cities, fortresses, parks, gardens, palaces, &c. The apertures of gates being always wide, they are generally made in the form of an arch, that figure being the strongest. But doors, which are generally of small dimensions, are commonly parallelograms, and closed horizontally.

The general proportion for the apertures, both of gates and doors, whether arched or square, is, that the height be about double the breadth.

The most common, and indeed almost the only or-

naments for gates are the piers by which they are supported, and which were originally no more than bare posts into which the hinges of the gate were driven.

Though this, however, is the only proper use of piers, it must be concealed as much as possible, and they must seem as if placed there only for ornament. As they are to be fixed to the wall before the house, so they must also be proportioned to it; and as they are to be seen in the same view with the front of the house, their correspondence with it is equally necessary. They are to be placed on a plinth, and something must be allowed by way of ornament and finishing at the top. All the luxuriance of fancy may be employed in the decoration of piers: but it will be proper to observe this general rule, that the pier being an inferior building, it must never be richer than the front of the house. If, for instance, the front of the house is ornamented with columns of the Doric order, the Ionic must not be used in the piers; and it will be found better to omit columns altogether, than to make use of the Tuscan order for piers in any case. If the Ionic or Corinthian orders are employed in the front of the house, the Doric or Ionic may be used with propriety in the piers. One piece of ornament is almost universal in piers, namely, a niche with its seat, made as if for the conveniency of weary travellers. On this account, it will be proper to raise the columns on pedestals, because the continued moulding from their cap will be a good ornament under the niche. The base of the columns ought always to be the Attic.

Inside doors, however small the building may be, should never be narrower than two feet nine inches; nor should they ever, in private houses, exceed three feet six inches in breadth, which is more than sufficient to admit the bulkiest person. Their height should at least be six feet three or four inches; otherwise a tall person cannot pass without stooping. In churches, palaces, &c. where there is a constant ingress and egress of people, the apertures must be larger. The smallest breadth that can be given to a gate is eight and a half or nine feet, which is but just sufficient for the passage of a coach.

Plate XLVI. fig. 1. is a rustic door, composed by the celebrated Vignola, in which the aperture occupies two-thirds of the whole height, and one-half of the whole breadth; the figure of it being a double square. The rustics may be either smooth or hatched; their joints must form a rectangle, and the breadth of each joint may be one-third, or two-sevenths, of the vertical surface of a rustic. The joints of the claveaux, or key-stones, must be drawn to the summit of an equilateral triangle, whose base is the top of the aperture. The architrave surrounding the aperture may be composed either of a large ogee and fillet, or of a platband and fillet. Its whole breadth must be one-tenth of the breadth of the aperture; the remaining part of each pier being for the rustics. The entablature is Tuscan: the cornice is to be one-fifteenth of the whole height of the door; and what remains below it being divided into 21 equal parts, the two uppermost of them will be for the frieze and architrave, and the remaining 19 for the rustics and plinth at the foot of the door.

Fig. 2. is a disposition of Michael Angelo's. The windows of the Capitol at Rome are of this kind; and Sir Christopher Wren has executed doors of the same kind



*Principles.* kind under the semicircular porches in the flanks of St Paul's. The figure of the aperture may be a double square; the architrave one sixth of the breadth of the aperture; and the whole entablature one quarter of its height. The front of the pilasters or columns, on each side, must be on a line with the fascia of the architrave; and their breadth must be a semi-diameter.

Fig. 3. is likewise a design of Vignola's. It is of the Corinthian order, and executed in the Cancelleria at Rome. The height is equal to double its breadth; and the whole ornament at the top is equal to one-third of the height of the aperture. The architrave is in breadth one fifth of the breadth of the aperture; and the pilasters, that support the consoles, are half as broad as the architrave. The whole is well imagined, but rather heavy; and it will be best to reduce the architrave to one-sixth of the aperture, diminishing the entablature proportionally.

Fig. 4. is a design of Serlio's. The aperture may be either twice as high as broad, or a trifle less. The diameter of the columns may be equal to one quarter of the breadth of the aperture; and their height may be from eight diameters to eight and a half. The entablature must be somewhat less than one quarter of the height of the columns; and the height of the pediment may be one quarter of its base.

Fig. 5. is a door in the saloon of the Farnese at Rome, designed by Vignola. The aperture forms a double square. The entablature is equal to three-elevenths of its height, the architrave being one of these elevenths; and the whole ornaments on the sides, consisting of the architrave and pilasters, are equal to two-sevenths of the breadth of the aperture: the cornice is Composite, enriched with mutules and dentils; and the frieze is adorned with a festoon of laurel.

Fig. 6. is copied from a door at Florence, said to be a design of Cigoli's. The height of the aperture is a trifle more than twice its breadth. It is arched; and the impost is equal to half a diameter. The columns are Ionic, somewhat above nine diameters high; and their shafts are garnished each with five rustic cinctures. The entablature is less than one quarter of the column; and the breadth of the tablet, in which there is an inscription, is equal to the breadth of the aperture.

Plate LVI. fig. 1. is a pier invented by Mr Chambers. Its diameter may be one quarter of its height, exclusive of the plinth and vase; and the height of both these may be equal to one diameter of the pier, or a trifle less. The rustics may either be plain, hatched, or vermieulated: the height of each course may be one-eleventh part of the height of the pier, counting to the top of the entablature; the entablature two-elevenths; and the base of the pier one-eleventh part.

Fig. 2. is likewise a composition of Mr Chambers imitated from M. Angelo Buonaroti's design for Cardinal Sernonetti. The height of the aperture is somewhat more than twice its breadth; which breadth occupies one-third of the breadth of the whole composition. The order is Composite; and the height of the entablature is equal to one quarter of the height of the column. He has made a break in it over each

column: but, unless the column project considerably, it will be as well to carry the entablature on in a straight line. The dimensions of the particular parts may be measured on the design.

Fig. 3. is also a composition of Mr Chambers, executed at Goodwood, the seat of his grace the duke of Richmond, in Suffex. The diameter is one quarter of the height, exclusive of the finishing, which is equal to one diameter; and the height of the pier, from the top of the entablature downwards, being divided into eleven and a half parts, one of these parts is given to the base, one to each rustic, and one and a half to the astragal, frieze, and cornice.

Fig. 4. is a composition of the late earl of Burlington's, that great architect and patron of the fine arts, which is executed at Chiswick, and at Bedford house in Bloomsbury square, with some little difference.

Fig. 5. is an invention of Mr Chambers.

Fig. 6. is one of Inigo Jones's; of which kind he hath executed a couple at Aimsbury in Wiltshire, the seat of his grace the duke of Queensberry.

### CHAP. XIII. Of Windows.

THE first consideration with regard to windows is <sup>78</sup>Proportions of windows. their size, which varies according to the climate, the destination of the building, &c. In Britain, the windows of the smallest private houses are commonly from 3 to 3½ feet broad; and being generally twice their breadth in height, or somewhat more, in the principal apartments, they generally rise to within a foot or two of the ceilings of the rooms, which are frequently no higher than 10 feet, and at most 12 or 13. But, in more considerable houses, the apartments are from 15 to 20 feet high, and sometimes more; and in these the windows are from 4 to 5 and 5½ feet broad, and high in proportion. These dimensions are sufficient for dwelling houses of any size in this country; when they are larger, they admit too much of the cold air in winter. But churches, and other buildings of that kind, may have larger windows, proportioned to the size of the structures.

The proportions of the apertures of windows depend upon their situation. Their breadth in all the stories must be the same; but the different heights of the apartments make it necessary to vary the height of the windows likewise. In the principal floor, it may be from 2⅓ of the breadth to 2⅔, according as the rooms have more or less elevation. In the ground story, where the apartments are lower, the apertures of the windows seldom exceed a double square, and, when they are in a rustic basement, they are frequently made much lower. The height of the windows of the second floor may be from 1½ of their breadth to 1¾; and Attics and Mezzanines may be either a perfect square, or somewhat lower.

The windows of the principal floor are generally <sup>79</sup>How ornamented. most enriched. The simplest method of adorning them is, with an architrave surrounding the aperture, and crowned with a frieze and cornice. The windows of the ground floor are sometimes left entirely plain, without any ornament: and at others they are surrounded with rustics, or a regular architrave with a frieze and cornice. Those of the second floor have generally an architrave carried entirely round the aperture;



**Principles.** ture; and the same is the method of adorning Attic and Mezzanine windows: but the two last have seldom either frieze or cornice; whereas the second floor windows are often crowned with both.

The breasts of all the windows on the same floor should be on the same level, and raised above the floor from two feet nine inches to three feet six inches at the very most. When the walls are thick, the breasts should be reduced under the apertures, for the convenience of looking out. In France, the windows are frequently carried quite down to the floor. When the building is surrounded with gardens, or other beautiful objects, this method renders the rooms exceeding pleasant.

The interval between the apertures of windows depends in a great measure on their enrichments. The breadth of the aperture is the least distance that can be between them; and twice that breadth should be the largest in dwelling houses; otherwise the rooms will not be sufficiently lighted. The windows in all the stories of the same aspect must be placed exactly above one another.

Plate XLVII. fig. 1. is a design of P. Lescot, abbot of Clagny, executed in the old Louvre at Paris. The apertures may be a double square, or a trifle more; the architrave from one-sixth to one-seventh of the breadth of the aperture: the pilaster is equal to that breadth, when the architrave is narrow; or less by one quarter, or one-fifth, when it is broad. The whole entablature should not exceed one quarter of the height of the aperture, nor be much lower. The consoles may be equal in length to half the breadth of the aperture at most, and to one-third of it at least.

Fig. 2. is a design of Palladio's, executed at the Chiericato in Vicenza: its proportions are not much different from the following. The plat-band that supports the window is equal to the breadth of the architrave.

Fig. 3. is likewise a design of Palladio's, executed by him in many of his buildings. The aperture is a double square. The breadth of the architrave is one-sixth of the breadth of the aperture; and the frieze and cornice together are double the height of the architrave. The breadth of the consoles is two-thirds of the breadth of the architrave.

Fig. 4. is a design of Ludovico da Cigoli; and executed in the ground floor of the Ranunchini palace at Florence.

Fig. 5. is a design of Inigo Jones, executed at the Banqueting House. The aperture may be a double square; the architrave may be one-sixth of its breadth; the whole entablature one quarter of its height; and the breadth of the consoles two-thirds of the breadth of the architrave.

Fig. 6. is a design of M. Angelo Buonaroti, executed at the Farnese.

#### CHAP. XIV. Of Niches and Statues.

It has been customary, in all ages, to enrich different parts of buildings with representations of the human body. Thus the ancients adorned their temples, baths, theatres, &c. with statues of their deities, heroes, and legislators. The moderns still preserve the same

custom, placing in their churches, palaces, &c. statues of illustrious persons, and even groups composed of various figures, representing occurrences collected from history, fables, &c. Sometimes these statues or groups are detached raised on pedestals, and placed contiguous to the walls of a building, or in the middle of a room, court, or public square. But they are most frequently placed in cavities made in the walls, called *niches*. Of these there are two sorts; the one formed like an arch in its elevation, and semicircular or semielliptical in its plan; the other is a parallelogram both in its plan and elevation.

The proportion of both these niches depends on the characters of the statues, or the general form of the groups placed in them. The lowest are at least a double square in height; and the highest never exceed  $2\frac{1}{2}$  of their breadth.

With regard to the manner of decorating them, when they are alone in a composition, they are generally enclosed in a pannel, formed and proportioned like the aperture of a window, and adorned in the same manner. In this case the niche is carried quite down to the bottom; but on the sides and at the top, a small space is left between the niche and the architrave of the pannel. And when niches are intermixed with windows, they may be adorned in the same manner with the windows, provided the ornaments be of the same figure and dimensions with those of the windows.

The size of the statues depends on the dimensions of the niches. They should neither be so large as to have the appearance of being rammed into the niches as in Santa Maria Majora at Rome; nor so narrow as to seem lost in them, as in the Pantheon. The distance between the outline of the statue and side of the niche should never be less than one-third of a head, nor more than one half, whether the niche be square or arched: and when it is square, the distance from the top of the head to the ceiling of the niche should not be greater than the distance on the sides. Statues are generally raised on a plinth, the height of which may be from one third to one half of a head; and sometimes, where the niches are large, the statues may be raised on small pedestals.

The character of the statue should always correspond with the character of the architecture with which it is surrounded. Thus, if the order be Doric, Hercules, Jupiter, Mars, Æsculapius, and all male statues, representing beings of a robust and grave nature, may be introduced; if Ionic, then Apollo, Bacchus, &c.; and if Corinthian, Venus, Flora, and others of a delicate nature, should be employed.

#### CHAP. XV. Of Chimney-pieces.

Among the ancients there are very few examples of chimney-pieces to be met with. Neither the Italians nor French have excelled in compositions of this kind. Britain, by being possessed of many able sculptors at different times, has surpassed all other nations, both in taste of design, and workmanship.

The size of the chimney must be regulated by the dimensions of the room where it is placed. In the smallest apartments, the breadth of the aperture should never be less than three feet, or three feet six inches.



*Principles.* In rooms from 20 to 24 feet square, or of equal superficial dimensions, it may be from 4 to  $4\frac{1}{2}$  feet broad; in those of 24 to 27, from  $4\frac{1}{2}$  to 5; and in such as exceed these dimensions, the aperture may even be extended to  $5\frac{1}{2}$  or 6 feet.

The chimney should always be situated so as to be immediately seen by those who enter the room. The middle of the partition wall is the most proper place in halls, saloons, and other rooms of passage; but in drawing-rooms, dressing-rooms, and the like, the middle of the back wall is the best situation. In bedrooms, the chimney is always in the middle of one of the partition walls; and in closets and other very small places, to save room, it is put in a corner. Wherever two chimneys are used in the same room, they should be placed either directly facing each other, if in different walls, or at equal distances from the centre of the wall in which they both are.

The proportion of the apertures of chimney-pieces of a moderate size is generally a perfect square; in small ones, it is a trifle higher; and in large ones, a trifle lower. Their ornaments consist in architraves, frizes, cornices, columns, pilasters, termini, caryatides, consoles, and all kinds of ornaments of sculpture, representing animals, vegetables, &c. likewise vases, chalices, trophies of arms, &c. In designing them regard must be had to the nature of the place where they are to be employed. Such as are intended for halls, saloons, guard-rooms, galleries, and other large places, must be composed of large parts, few in number, of distinct and simple forms, and having a bold relief; but chimney-pieces for drawing-rooms, dressing-rooms, &c. may be of a more delicate and complicated nature.

Chimney-pieces are composed of wood, stone, or marble; the last of which ought to be preferred, as figures or profiles are best represented in a pure white.

Plate XLVIII. exhibits different designs for chimney-pieces by Palladio and Inigo Jones. Their proportion may be gathered from the designs, which are accurately executed.

#### CHAP. XVI. *Of the Proportions of Rooms.*

*86* THE proportions of rooms depend in a great measure on their use and actual dimensions; but, with regard to beauty, all figures, from a square to a sesquilateral, may be employed for the plan.

The height of rooms depends on their figure. Flat ceiled ones may be lower than those that are coved. If their plan be a square, their height should not exceed five-sixths of the side, nor be less than four-fifths; and when it is oblong, their height may be equal to their breadth. But coved rooms, if square, must be as high as broad; and when oblong, they may have their height equal to their breadth, more one-fifth, one quarter, or even one-third of the difference between the length and breadth: and galleries should at least be in height one and one-third of their breadth, and at most one and a half, or one and three-fifths.

*87* The coldness of the British climate is a strong objection to high rooms; so that it is not uncommon to see the most magnificent apartments not above 15, 16, or at most 18 feet high; though the extent of the

rooms would require a much more considerable elevation. But where beauty is aimed at, this practice ought not to be imitated. *Principles.*

When rooms are adorned with an entire order, the entablature should never exceed one-sixth of the whole height in flat-ceiled rooms, and one-sixth of the upright part in coved ones; and when there are neither columns nor pilasters, but only an entablature, its height should not be above one-seventh of these heights. If the rooms be finished with a simple cornice, it should never exceed one-fourteenth, nor ever be less than one-fiftieth part of the above-mentioned height.

#### CHAP. XVII. *Of Ceilings.*

*88* CEILINGS are either flat, or coved in different manners. The simplest of the flat kind are those adorned with large compartments, surrounded with one or several mouldings, either let into the ceiling, or projecting beyond its surface; and when the mouldings that form the compartments are enriched, and some of the compartments adorned with well executed ornaments, such ceilings have a good effect, and are very proper for common dwelling houses, and all low apartments. Their ornaments and mouldings do not require a bold relief; but, being near the eye, they must be finished with taste and neatness. For higher rooms, a flat ceiling which has the appearance of being composed of various joists framed into each other, and forming compartments of various geometrical figures, should be employed. The sides of the joists forming the compartments are generally adorned with mouldings, and represent either a simple architrave, or an architrave cornice, according to the size of the compartments and the height of the room.

Coved ceilings are more expensive; but they are likewise more beautiful. They are used promiscuously in large and small rooms, and occupy from one-fifth to one-third of the height of the room. If the room be low in proportion to its breadth, the cove must likewise be low; and when it is high, the cove must be so likewise: by which means the excess of the height will be rendered less perceptible. But, where the architect is at liberty to proportion the height of the room to its superficial dimensions, the most eligible proportion for the cove is one-fourth of the whole height. In parallelogram-figured rooms, the middle of the ceiling is generally formed into a large flat pannel. This pannel, with the border that surrounds it, may occupy from one half to three-fifths of the breadth of the room. The figure of the cove is commonly either a quadrant of a circle or of an ellipse, taking its rise a little above the cornice, and finishing at the border round the great pannel in the centre. The border projects somewhat beyond the coves on the outside; and, on the side towards the pannel, it is generally made of sufficient depth to admit the ornaments of an architrave, or architrave and cornice.

In Britain circular rooms are not much in use; but they are very beautiful. Their height must be the same with that of square rooms; their ceilings may be flat; but they are handsomer when coved, or of a concave form.

*Arcs doubleaux*, or soffits of arches, when narrow, are



Principles. are ornamented with *guillochs*, or frets; but when broad, they may be adorned in a different manner.

When the profiles of the room are gilt, the ceilings ought likewise to be gilt. The usual method is to gilt all the ornaments, and to leave the grounds white, pearl colour, light blue, or of any other tint proper to set off the gilding to advantage. Painted ceilings, so common in France and Italy, are but little used in Britain.

#### CHAP. XVII. Of Stairs and Staircases.

89 THERE are many kinds of staircases: for, in some, the steps are made straight; in others winding; in others, mixed of both. Of straight stairs, some fly directly forward, others are square, others triangular. Others are called *French flights*; or *winding stairs*, (which in general are called *spiral*, or *cockle stairs*); of which some are square, some circular or round, and some elliptical or oval; and these again are various, some winding about a solid, others about an open newel. Stairs mixed of straight and winding steps are also of various kinds; some are called *dog-legged*; some there are that wind about a solid newel, and others that fly about a square open newel.

90 Staircases where to be placed.

Great care ought to be taken in placing of the staircase in any building; and therefore staircases ought to be described and accounted for justly when the plan of a building is made. For want of this, sometimes unpardonable errors have been committed: such as having a little blind staircase to a large house, or, on the other hand, a large spacious staircase to a little one.

Palladio says, in placing staircases, the utmost care ought to be taken; it being difficult to find a place convenient for them, that will not at the same time prejudice the rest of the building. But commonly the stairs are placed in the angle, wing, or middle of the front.

To every staircase are required three openings.

First, The door leading thereto.

Secondly, The window, or windows, that give light to it;

And, Thirdly, The landing.

First, The door leading to the staircase should be so placed, that most of the building may be seen before you come at the stairs, and in such a manner that it may be easy for any person to find out.

Secondly, For the windows; if there be but one, it must be placed in the middle of the staircase, that thereby the whole may be enlightened.

Thirdly, The landing of stairs should be large and spacious for the convenient entering into rooms; in a word, staircases should be spacious, light, and easy in ascent. The height of large steps must never be less than six inches, nor more than seven inches and a half.

The breadth of steps should never be less than 10 inches, nor more than 18 inches; and the length of them not less three feet, nor more than 12.

91 Plate XLIX. fig. 1. A staircase of two flights.—*A* shows the manner of drawing the *ramp*, which is to rise equal to the height of the first step of the next flight, and as much as its *kneeling*; as is shown by the *ramp* intersecting the rail of the second flight.

Fig. 2. shows the straight rail intersecting a circular cap. Principles.

Fig. 3. section of two different hand rails.

Fig. 4. shows the manner of dove-tailing the riser into the step.

Plate L. fig. 1. represents a staircase, with flights, and its landing rail. 92

Fig. 2. shows the solid part of the step out of which the scroll is formed; where *a* represents the *overfall* of the step; *b*, The thickness of the bracket, with its *mitring* to the *riser*; and *c*, The *string-board*.

Fig. 4. shows the scale for drawing the scroll of fig. 3.—To perform which, take the distance from 1 to the centre, in fig. 3. and set it from 1 to the centre in fig. 4; divide that extent into three parts, then set 4 such parts on the upper side of the scale, and draw the line from 4 to 1; set one foot of your compasses at 4, and strike the circular line; let that be divided into 12 equal parts, and then draw lines from 4 through those divisions to the upright line.

The scale being thus made, draw the scroll of fig. 3. by it in the following manner.

Set one foot of your compasses in 1, and describe a stroke at *c*; take the same distance, and with one foot in 2, cross the stroke at *c*; then from *c*, turn the part from 1 to 2, and proceed in the same manner: for if the distance were taken in the scale from 1 to the centre, it would strike the circle too flat; and if taken from 2, it would strike the circle too quick.

When this is well understood, there will be little difficulty in drawing the scroll below fig. 2.; which throws itself out farther in proportion than that in fig. 3.; for this will always be the case when the upper line of the scale, which consists of four divisions in fig. 4. is made but with three divisions or less; whence it appears, that the upper line of the scale may be drawn at what length you please, according as you would bring in or keep out the scroll.

Plate LI. shows the manner of squaring twist rails.

93 Fig. 2. exhibits the pitch board, to show what part of the step the twisted part of the rails contains; the three dotted lines drawn from the rail to the pitch board represent the width of the rail, which is to be kept level. The dotted lines *a* and *b* show how much half the width of the rail turns up from its first beginning to 3.

Fig. 3. shows the same pitch board with the manner of the rail's turning up. If the sides of the twisted part of the rail be shaped by the rail mould, so that they direct down to its ground plan, that is, the upper side of the rail being first struck by the mould, then apply the mould to the under side, as much back as the level of the pitch board shows, by being struck on the side of the rail, and then fig. 3. being applied to the outside of the rail, from its first twisting part to 3, will show how much wood is to be taken off.

Fig. 5. exhibits the square of the rail, with the raking line of the pitch board drawn through the middle on the upper side; then draw the depth of the side of the rail parallel to this, and the dotted lines from the diagonal of the rail; these lines show what quantity of wood will be wanting on the upper and lower sides of the rail. Set your compasses at *c*, and draw the circular stroke from the raking part of the pitch board to *b*; take the distance *ab* and transfer it from



Practice.

$a$  to  $b$ , in fig. 7. The several distances thus found may be set at any number of places, ranging with the straight part of the rail; and it then forms the width of the mould for the twisting part of the rail.

Fig. 7. shows the sweep of the rail. The rail cannot be fixed less than one-fourth part from the *nosng* or front of the step.

The remaining part of the pitch board may be divided into any number of parts, as here into four; from these divisions draw lines across the pitch board to the raking line; then take the distances from the ground line of the pitch board to the plan of the rail, and set them perpendicular from the raking line of the pitch board; and these divisions, when the rail is in its proper position, lie directly over the divisions on the ground plan.

In this figure  $l$ ,  $m$ , and  $n$ , rise as much above  $o$  as the dotted line in fig. 5. does above the width of the rail: and they sink as much below  $o$  as the other dotted line in fig. 5. falls below the width of the rail; the same thicknesses must be glued upon  $o$ , though the greatest part will come off in squaring. The reason of placing the letters  $l$ ,  $m$ , and  $n$ , where they are, is that they might not obstruct the small divisions of the rail mould.

Fig. 4. shows how to find the rail when it takes more than one step. The remaining part of the pitch board is divided into four parts, as before in fig. 7. and it takes in two such parts of the next step. Draw lines from these divisions to the diagonal of the pitch board as in fig. 7. then take the distance  $a b$ , and set it from  $c$  to  $d$ , and so proceed with the other divisions.

Another way to find the outside of the rail mould is, to draw all the divisions across the plan of the rail; then take the distance from the ground line of the pitch board to 4, transfer it from the diagonal of the pitch board to 4 on the rail; and so proceed with the other distances. Now, when the rail is put in its proper situation  $c$  will be perpendicular to  $b$ , and all the divisions, as 1, 2, 3, 4, &c. in the rail, will be perpendicular to 1, 2, 3, 4, &c. in the ground plan.

Fig. 6. shows the plan of a rail of five steps.

To find the rail.—Set five divisions, as from  $e$  to  $b$ , which is the height of the five steps; draw the diagonal  $b$  to the plan of the rail; then take the distance  $e f$ , and transfer it to  $g b$ , and proceed in the same manner with the other seven distances.

To find the width of the rail mould.—Draw the lines across the plan of the rail, as at  $k$ ; set that distance from the diagonal to  $i$ ; and so proceed with the rest, as is shown in fig. 4.

Having formed the sides of the rail perpendicular to its ground plan, and having squared the lower end of the rail, then take a thin lath, and bend it with the rail, as is represented by  $m$ . fig. 1.

This is the readiest method of squaring a solid rail; but if the rail be bent in the thicknesses, the nosing of the steps must be drawn upon a cylinder, or some other solid body of a sufficient width to contain the width of the rail or string board.

$r$  Represents the depth of the rail, touching the nose of each step. Take a sufficient number of thicknesses of this width, to make the thicknesses of your rail, glue them altogether upon your cylinder or templet; confine them till they are dry, and the rail taken off is ready squared. Proceed in the same manner with the architrave, marked  $a$ .

#### CHAP. XIX. Of Roofs.

PLATE LII. Fig. 1. shows the form of a trussed roof, with three ring posts, that may carry 70 feet or upwards.

Fig. 2. exhibits an *M* roof, capable of carrying as great an extent as the former. Indeed both these designs are capable of carrying almost any extent.

Fig. 3. represents two different sorts of trusses.

Fig. 4. shows the manner of piecing timber. Sometimes the joint may be extended as far as  $a$ , with another bolt through it. To the right is shown a different sort of joint.

Fig. 5. shows the manner of trussing a girder. If the trusses are full long, with the pieces  $b$  and  $c$ , you may make them as light as you please.

Fig. 6. represents the manner of trussing partitions.

## PART II. PRACTICE OF ARCHITECTURE.

HAVING thus described and given rules for the most generally received proportions of the different parts of buildings, both of the useful and ornamental kind, we must next give an account of the method of erecting different kinds of edifices; and here the judgment of the architect must necessarily be very much employed, as no fixed rules have been laid down by which he can be directed in all cases. As a necessary preliminary, however, to the construction, we must first consider,

### CHAP. I. The Situations of Houses.

95

THOUGH it must be, in many cases, impossible to choose such a situation as might be agreeable either to the architect or the proprietor, yet where a choice can

be made, there are certainly a great many circumstances that will determine one situation to be preferable to another. These circumstances depend entirely on the person who is to inhabit the house. A farmer, for instance, ought to dwell in the most central part of his farm; an independent gentleman must regard the healthiness, the neighbours with whom he can converse, the prospect from his house, and also the aspect of the ground near it. To answer these purposes of health and pleasure, an open elevated situation is the best, as the air is there pure, and the prospect extensive: but too elevated a situation is disagreeable, as being both difficult of access, and exposed to cold and bleak winds. To build in bottoms between hills is both unhealthy and unpleasant, the house being in a manner buried, and the ground near it generally marshy from the



**Practice.** the rain water which runs down from the hills, which renders the air unwholesome. As a garden also is a very necessary article to a country habitation, the soil is by no means a matter of indifference; and therefore it may be concluded, that an elevated situation on a gravelly loam, near some running water, is the best situation for a country house.

### CHAP. II. *Of the Construction of Edifices in general.*

THE proper situation of a house, or any other building, being chosen, according to its intended nature, the next thing to be considered is to lay the foundation in a proper manner. The only security of a house, or any other building whatever, is in having a good foundation, and no error is so dangerous as that which is committed here; as the shrinking of the foundation but the breadth of a straw may cause a rent of five or six inches wide in the superstructure. To guard against errors of this kind, the qualities of the ground for a considerable depth must be carefully observed.

<sup>96</sup>  
Qualities of the ground necessary to be examined.

The best foundation is that which consists of gravel or stone; but, in order to know whether the inferior strata are sufficient for the support of the building, it will be advisable to sink wells at some little distance. By attending to what is thrown up in digging these, the architect will be acquainted with what lies under the stony or gravelly bed which on the surface promises so much security, and will know what measures to take.

<sup>97</sup>  
Rocky ground sometimes dangerous.

But though a stony or gravelly bottom is undoubtedly the most sure and firm, where all is found beneath, there is no kind of ground which may prove more fallacious, or occasion such terrible accidents. The reason of this is, that such kind of ground often contains absolute vacuities; nor is rock itself, though a foundation upon a rock is strong even to a proverb, free from dangers of the same kind. Caverns are very frequent in rocky places: and should a heavy building be erected over one of these, it might suddenly fall down altogether. To guard against accidents of this kind, Palladio advises the throwing down great weights forcibly on the ground, and observing whether it sounds hollow, or shakes; and the beating of a drum upon it, by the sound of which an accustomed ear will know whether the earth is hollow or not.

Where the foundation is gravel, it will be proper to examine the thickness of the stratum, and the qualities of those that lie under it, as they have appeared in digging. If the bed of gravel is thick, and the under strata of a sound and firm kind, there needs no assistance; if otherwise, we must have recourse to various methods in order to supply the defect.

<sup>98</sup>  
Sandy or boggy ground how managed.

The other matters which may occur for a foundation are clay, sand, common earth, or rotten boggy ground. Clay will often both raise and sink a foundation; yet it has a solidity which, with proper management, is very useful. The marshy, rotten, or boggy ground is of all others the worst; yet even upon this great buildings may be raised with perfect safety, provided proper care be taken. In case of boggy earths, or unfirm sand, piling is one of the most common methods of securing a foundation; and, notwithstanding the natural disadvantage of the earth, piles, when pro-

perly executed, are one of the firmest and most secure foundations. **Practice.**

In foundations near the edge of waters, we should always be careful to found to the very bottom; as many terrible accidents have happened from the ground being undermined by rivers. The same method is to be followed when the ground on which we build has been dug or wrought before. It ought never to be trusted in the condition in which it is left; but we must dig through it into the solid and unmoved ground, and some way into that, according to the weight and bigness of the intended edifice. The church of St Peter at Rome is an instance of the importance of this last observation. That church is in great part built upon the old circus of Nero; and the builders having neglected to dig through the old foundation, the structure is consequently so much the weaker. The walls were judged of strength enough to bear two steeples upon the corners of the frontispiece; but the foundation was found too weak when it was impossible to remedy the defect perfectly.

<sup>99</sup>  
Foundations near waters dangerous.  
<sup>100</sup>  
Defect in St Peter's at Rome.

Before the architect, however, begins to lay the foundation of the building, it will be proper to construct such drains as may be necessary for carrying off the rain, or other refuse water that would otherwise be collected and lodge about the house. In making of drains for carrying off this water, it will be necessary to make large allowances for the different quantities that may be collected at different times. It must also be considered, that water of this kind is always loaded with a vast quantity of sediment, which by its continual falling to the bottom will be very apt to choke up the drain, especially at those places where there happen to be angles or corners in its course. The only method of preventing this is by means of certain cavities disposed at proper distances from one another. Into these the sediment will be collected, and they are for that reason called *sesspools*. With regard to these, the only directions necessary are, that they be placed at proper distances, be sufficiently large, and placed so as to be easily cleaned. It is a good rule to make a sesspool at each place where the water enters the drain; as by this means a considerable quantity of sediment will be prevented from entering the channel at all. Others are to be made at proper distances, especially where there are any angles. They must be made sufficiently large; the bigger, in moderation, the better; and they must also be covered in such a manner as to be easily got at in order to be cleaned. But as putrid water is exceedingly noxious, it will be necessary to carry up a brick funnel over every sesspool, in order to prevent the collection of the putrid effluvia, which would otherwise occasion the death of the person who cleaned it.

<sup>101</sup>  
Drains how made.

<sup>102</sup>  
Sesspools.

All drains ought to be arched over at top, and may be most conveniently built of brick. According to their different sizes, the following proportions of height and thickness may be observed. If the drain is 18 inches wide, the height of the walls may be one foot and their thickness nine inches; the bottom may be paved with brick laid flatwise, and the arch turned four inches. If the drain is 22 inches wide, the side walls are then to be one foot three inches in height, and the rest constructed as before. If it is 14 inches wide,

<sup>103</sup>  
Proportions of drains.

wide,



Practice.

wide, the height of the walls may be nine inches, and the sweep of the arch four. A drain of a yard wide should have the same height, and the arch turned over it ought to be nine inches thick. Upon the same principles and proportions may other drains of any size be constructed.

104  
Foundation  
of buildings  
how laid.

The sewers and drains being constructed in a manner proportioned to the size of the intended building, the architect may next proceed to lay the foundation of the walls. Here the first care must be, that the floor of the foundation be perfectly smooth and level. The Italians begin with laying over it an even covering of strong oak plank; and upon that they lay, with the most exact care, the first course of the materials. Whether we take this method, or begin upon the naked floor, all must be laid with the most exact truth by rule and line. When the board plat is laid, a course of stone is the best first bed, and this is to be laid without mortar; for lime would make the wood decay, which otherwise, in a tolerably good soil, will last for ages. After this, all the courses should follow with the same perfect evenness and regularity. If the materials are brick, they should be laid on with an equal, and not too great quantity of mortar: if stone, they ought to be placed regularly, and in the same situation in which they lay in the quarry: for many stones which will bear any weight flatwise, and in their natural position, are of such a grain, that they will split otherwise. The joinings of the under course must be covered by the solid of the next course all the way up; and the utmost care must be taken that there be no vacancy left in the wall, for the weight will most certainly crush it in. The less mortar there is in a foundation, the better. Its use is to cement the bricks and stones together; and the evener they are, the less will be required for that purpose. Where mortar is used to fill up cavities, it becomes part of the wall; and not being of equal strength with the solid materials, it takes from the firmness of the building. For the same reason nothing can be more absurd than to fill up a foundation with loose stones or bricks thrown in at random; and where this is done, the ruin of the building is inevitable. Where the foundation of a principal wall is laid upon piles, it will be necessary also to pile the foundations of the partitions, though not so strongly.

105  
Thickness  
and dimi-  
nutions of  
walls, &c.

The thickness of foundation walls in general ought to be double that of the walls which they are to support. The looser the ground, the thicker the foundation wall ought to be; and it will require the same addition also in proportion of what is to be raised upon it. The plane of the ground must be perfectly level, that the weight may press equally everywhere: for when it inclines more to one side than another, the wall will split. The foundations must diminish as they rise, but the perpendicular is to be exactly kept in the upper and lower parts of the wall; and this caution ought to be observed all the way up with the same strictness. In some ground, the foundation may be arched; which will save materials and labour, at the same time that the superstructure has an equal security. This practice is peculiarly serviceable where the foundation is piled.

As the foundation walls are to diminish in thickness, so are those which are built upon them. This is ne-

cessary in order to save expence, but is not absolutely so to strengthen the wall; for this would be no less strong though it was continued all the way to the top of an equal thickness, provided the perpendicular was exactly kept. In this the ancients were very expert; for we see, in the remains of their works, walls thus carried up to an exorbitant height. It is to be observed, however, that, besides perfect truth in their perpendiculars, they never grudged iron-work, which contributed greatly to the strength of their buildings. The thickness and diminution of walls is in a great measure arbitrary. In common houses built of brick, the general diminution from the bottom to the top is one half the thickness at the bottom; the beginning is two bricks, then a brick and a half, and lastly one brick, thickness. In larger edifices, the walls must be made proportionally thicker; but the diminution is preserved much in the same manner. Where stones are used regard must be had to their nature, and the propriety of their figures for holding one another. Where the wall is to be composed of two materials, as stone and brick, the heaviest ought always to be placed undermost.

There is one farther particular regarding the strength of a plain wall, and that is, the fortifying its angles. This is best done with good stone on each side, which gives not only a great deal of strength, but a great deal of beauty. Pilasters properly applied are a great strengthening to walls. Their best distance is about every 20 feet, and they should rise five or six inches from the naked of the wall. A much slighter wall of brick with this assistance, is stronger than a heavier and massier one built plain. In brick walls of every kind, it is also a great addition to their strength to lay some chief courses of a larger and harder matter; for these serve like sinews to keep all the rest firmly together, and are of great use where a wall happens to sink more on one side than another. As the openings in a wall are all weakenings, and as the corners require to be the strongest parts, there should never be a window very near a corner. Properly, there should always be the breadth of the opening firm to the corner. In the most perfect way of forming the diminution of walls, the middle of the thinnest part being directly over the middle of the thickest, the whole is of a pyramidal form; but where one side of the wall must be perpendicular and plain, it ought to be the inner, for the sake of the floors and cross walls. The diminished side, in this case, may be covered with a fascia or cornice, which will at once be a strength and ornament.

Along with the construction of walls, that of the chimneys must also be considered; for errors in the construction of these, will render the most elegant building extremely disagreeable. The common causes of smoking are either that the wind is too much let in above at the mouth of the shaft, or the smoke is stifled below; and sometimes a higher building, or a great elevation of the ground behind, is the source of the mischief; or lastly, the room in which the chimney is may be so small or close, that there is not a sufficient current of air to drive up the smoke. Almost all that can be done, while the walls are constructing, to prevent smoke, is, to make the chimney vent narrower at bottom than top: yet this must not be carried to an extreme;

Practice.  
106  
Diminution  
of the  
thickness  
of walls.

107  
Angles how  
fortified.

108  
Windows  
improper  
near the  
corners.

109  
Chimneys.



**Practice.** extreme; because the smoke will then linger in the upper part, and all the force of the draught will not be able to send it up. As for the methods of curing smoky chimneys in houses already built, see the article CHIMNEY.

110  
Roofs.

After the walls are finished, the roof is the next consideration: but concerning it very little can be said; only that its weight must be proportioned to the strength of the walls. It must also be contrived so as to press equally upon the building; and the inner walls must bear their share of the load as well as the outer ones. A roof ought neither to be too massy nor too light; as being necessary for keeping the walls together by its pressure, which it is incapable of doing while too light; and if too heavy, it is in danger of throwing them down. Of these two extremes, however, the last is to be accounted the worst.

111  
Floors.

With regard to the floors, they are most commonly made of wood; in which case, it will be necessary that it should be well seasoned by being kept a considerable time before it is used. The floors of the same story should be all perfectly on a level: not even a threshold rising above the rest; and if in any part there is a room or closet whose floor is not perfectly level, it ought not to be left so, but raised to an equality with the rest; what is wanting of the true floor being supplied by a false one.

In mean houses, the floors may be made of clay, ox blood, and a moderate portion of sharp sand. These three ingredients, beaten thoroughly together and well spread, make a firm good floor, and of a beautiful colour. In elegant houses, the floors of this kind are made of plaster of Paris, beaten and sifted, and mixed with other ingredients. This may be coloured to any hue by the addition of proper substances; and, when well worked and laid, makes a very beautiful floor. Besides these, halls, and some other ground rooms, are paved or floored with marble or stone; and this either plain or dotted, or of a variety of colours; but the universal practice of carpeting has, in a great measure set aside the bestowing any ornamental workmanship upon floors. In country buildings, also, floors are frequently made of bricks and tiles. These, according to their shapes, may be laid in a variety of figures; and they are also capable of some variation in colour, according to the nature of the earth from which they were made. They may be laid at any time; but for those of earth or plaster, they are best made in the beginning of summer, for the sake of their drying.

### CHAP. III. *Of the distribution of the Apartments of Houses, with other conveniences.*

As houses are built only for the sake of their inhabitants, the distribution of the apartments must of necessity be directed by the way of life in which the inhabitants are engaged. In the country, this is commonly farming; and here, besides the house for the family, there is also necessary a barn for the reception of the produce of the ground, a stable for cattle, a cart house for keeping the utensils under cover, and sheds for other uses.—To accomplish these purposes, let a piece of ground be taken of five times the extent of the front of the house, and enclosed in the least ex-

ensive manner. Back in the centre of this let the house be placed, and in the front of the ground the barn and the stable, with the adjoining sheds. These are to be set one on each side, to the extreme measure of the enclosed ground; they will thus fill up a part of the entrance, and will leave all about the house some enclosed ground by way of yard. From the barn to the stable may be extended a fence with a gate in the middle, and this gate ought to front the door of the house.

This much being settled, the plan of the house and out buildings may be made as follows. The door may open into a plain brick passage, at the end of which may be carried up a small staircase. On one side of the passage may be a common kitchen; and on the other side a better or larger room, which will serve the family by way of parlour. Beyond this may stand on one side the pantry, and on the other the dairy room, the last being twice the size of the former. They are placed on the same side with the parlour, on account of the heat of the kitchen, which renders it improper to be near them. On the kitchen side, a brewhouse may very conveniently be placed. More rooms may be added on the ground floor as occasion requires; and the upper story is to be divided into bedchambers for the family, with garrets over them for the servants.—A house of this kind is represented Plate LIII. fig. 1; and one of a somewhat better kind, fig. 2. where a private gentleman who has a small family may find conveniency.

On Plate LIV. is represented a gentleman's country-seat, built on a more elegant plan. Here the front may extend 65 feet in length, the depth in the centre being 40 feet, and in each of the wings 45. The offices may be disposed in wings; the kitchen in the one, and the stables in the other; both of which, however, may correspond in their front with the rest of the building, which they ought also to do with one another. These wings may have a projection of 13 feet from the dwelling house, to which they ought to be connected, not by straight lines, but by curves as represented fig. 2.

The best proportion of these offices to a house extending 65 feet in front, is 35 feet. If they are smaller, the house will look gigantic; if larger, they will lessen its aspect. To a front of 35 feet, a depth of 48 is a very good proportion. There ought also to be a covered communication between the dwelling house and offices, which must not appear only to be a plain blank wall, but must be ornamented with gates, as in the figure. The arch by which the offices are joined to the dwelling house must be proportioned to the extent of the buildings; and there cannot be a better proportion than five feet within the angles of the buildings. By this means the wings, which have only a projection of 13 feet, will appear to have one of 18, and the light will be agreeably broken.

With regard to the internal distribution of a house of this kind, the under story may be conveniently divided into three rooms. The hall, which is in the centre will occupy the whole of the projecting part, having a room on each side. The length of the hall must be 24 feet and its breadth 12: the rooms on each side of it must be 16 feet long, and 11 wide. Of these two front rooms, that on the right hand may be

112  
Plan of a  
farm house.

113.  
Of an ele-  
gant coun-  
try seat.



*Practice.* conveniently made a waiting room for persons of better rank, and that on the left hand a dressing room for the master of the house. Behind the hall may run a passage of four feet and a half, leading to the apartments in the hinder part of the house and the staircase. These may be disposed as follows: Directly behind the hall and this passage the space may be occupied by a saloon, whose length is 24 feet and its breadth 17. On the left hand of the passage, behind the hall, is to be placed the grand staircase; and as it will not fill the whole depth, a pleasant common parlour may terminate on that side of the house. On the other side, the passage is to lead to the door of the great dining parlour, which may occupy the whole space.

114  
Another.

A plan of a house of the same kind, but somewhat different in the distribution, is represented below in the same plate. The front here extends 68 feet, and the wings project 28 feet; their depth is 48, and their breadth 36. The hall may be 26 feet long and 17 broad. On the left hand of the hall may be a waiting room 16 feet long and 10 broad; behind which may be a handsome dining room. The passage into this waiting room should be at the lower end of the hall; and it must have another opening into the room behind it. On the right hand of the hall is the place of the great staircase, for which a breadth of 16 feet three inches is to be allowed. In the centre of the building, behind the hall, may be a drawing room 26 feet long and 16 broad; and behind the staircase will be room for a common parlour of 16 feet square. The passage of communication between the house and wings may be formed into colonnades in a cheap manner behind: a flight of steps, raised with a sweep, occupying the centre of each, and leading up to a door, and the covering being no more than a shed supported by the plainest and cheapest columns.

The two wings now remain to be disposed of. That on the right hand may contain the kitchen, and offices belonging to it, and the other the stables. The front of the right hand wing may be occupied by a kitchen entirely, which will then be 30 feet long and  $16\frac{1}{2}$  wide; or it may be made smaller by setting off a small room to the right. Twenty-two feet by 16 will then be a good bigness. The other room will then have the same depth of 16 feet, and the width to the front may be  $7\frac{1}{2}$ . Beyond the kitchen may stand the staircase, for which  $7\frac{1}{2}$  feet will be a proper allowance; and to the right of this may be a scullery 12 feet 10 inches deep from the back front by seven in breadth. To the left of the stair may be a servants hall 16 feet square, and behind that a larder 12 feet 10 by 14 feet 6. In the centre of the other wing may be a double coach-house: for which there should be allowed the whole breadth of the wing, with 10 feet 6 inches in the clear; and on each side of this may be the stables. The external decorations of the front and wings will be better understood from the figure than they can be by any description.

115  
Of the  
earl of  
Wemyss's  
house.

Plate LV. shows the plan and elevation of the house of the earl of Wemyss at Newmills. The proportions of the rooms are marked in the plan; and the front, being decorated with columns of the Ionic order, will sufficiently show in what manner any of the

five orders may be introduced with propriety and elegance. *Practice.*

#### CHAP. IV. Of Aquatic Buildings.

##### I. Of BRIDGES.

THESE are constructed either of wood or stone; of which the last are evidently the strongest and most durable, and therefore, in all cases, to be preferred where the expence of erecting them can be borne. The proper situation for them is easily known, and requires no explanation; the only thing to be observed is, to make them cross the stream at right angles, for the sake of boats that pass through the arches, with the current of the river; and to prevent the continual striking of the stream against the piers, which in a long course may endanger their being damaged and destroyed in the end. 116

Bridges built for a communication of high roads, ought to be so strong and substantial as to be proof against all accidents that may happen, to have a free entrance for carriages, afford an easy passage to the waters, and be properly adapted for navigation, if the river admits of it. Therefore the bridge ought to be at least as long as the river is wide in the time of its greatest flood: because the stopping of the waters above may cause too great a fall, which may prove dangerous to the vessels, and occasion the under gravelling the foundation of the piers and abutments; or, by reducing the passage of the water too much in time of a great flood, it might break through the banks of the river, and overflow the adjacent country, which would cause very great damages; or if this should not happen, the water might rise above the arches, and endanger the bridge to be overset, as has happened in many places.

When the length of the bridge is equal to the breadth of the river, which is commonly the case, the current is lessened by the space taken up by the piers; for which reason this thickness should be no more than is necessary to support the arches; and it depends, as well as that of the abutments, on the width of the arches, their thickness, and the height of the piers.

The form of the arch is commonly semicircular; but when they are of any great width, they are made elliptical, because they would otherwise become too high. This has been done at the Pont Royal at Paris, where the middle arch is 75 feet, and its height would have been 37.5 feet, instead of which it is only 24 by being made elliptical. 117  
Proper form of arches.

Another advantage of much more importance arises from the oval figure, which is, that the quantity of masonry of the arches is reduced in the same proportion as the radius of the arch is to its height. That is, if the radius is 36 feet, and the height of the arch 24, or three-fourths of the radius, the quantity of masonry of the arches is likewise reduced to three-fourths; which must lessen the expence of the bridge considerably. Notwithstanding these advantages, however, the latest experiments have determined segments of circles to be preferable to curves of any other kind; and of these the semicircle is undoubtedly the best, as preserving most perpendicularly on the piers.

When



Practice.

When the height of the piers is about six feet, and the arches are circular, experience has shown, says Mr Belidor, that it is sufficient to make the thickness of the piers the sixth part of the width of the arch, and two feet more; that is, the thickness of the piers of an arch of 36 feet, ought to be eight feet; those of an arch of 48 feet, to be 10.

118  
Thickness  
of the piers.

When the arches are of a great width, the thickness of the piers may be reduced to the sixth part of that width; but the depression of the two feet is not done at once; that is, in an arch of above 48 feet, 3 inches are taken off for every 6 feet of increase of the width of the arch. For instance, the thickness of the piers supporting an arch of 72 feet wide, should be 14 feet, according to the preceding rule; but by taking off 3 inches for every 6 feet, above an arch of 48 wide, the thickness of the piers is reduced to 13 feet; consequently, by following the same rule, the thickness of the piers supporting an arch of 16 fathoms wide, will be 16 feet; all the others above that width are the sixth part of the width.

After this, Mr Belidor gives a rule for finding the thickness of the piers which support elliptic arches, and makes them stronger than the former; the abutments he makes one sixth part more than the piers of the largest arch. But it is plain that these rules are insufficient, being merely guess-work, determined from some works that have been executed.

119  
Of the arch-  
stones.

The thickness of the arch-stones is not to be determined by theory, nor do those authors who have written on the subject agree amongst themselves. Mr Gautier, an experienced engineer, in his works, makes the length of the arch-stones, of an arch 24 feet wide, two feet; of an arch 45, 60, 75, 90 wide, to be 3, 4, 5, 6, feet long respectively, when they are hard and durable, and something longer when they are of a soft nature: on the contrary, Mr Belidor says, they ought to be always one twenty-fourth part of the width of the arch, whether the stone be hard or soft; because, if they are soft, they weigh not so much.

But that the length of the arch-stones should be but a foot in an arch of 24 feet wide, 2, 3, 4, in arches of 48, 72, 96 feet, seems incredible; because the great weight of the arches would crush them to pieces, by the pressure against one another: and therefore Mr Gautier's rule appears preferable. As he made the length of the arch-stones to increase in a slower proportion, from 10 to 45 feet wide, than in those above that width, we imagine that the latter will be sufficient for all widths, whether they are great or little; therefore we shall suppose the length of the arch-stones of 30 feet in width to be two feet, and to increase one foot in 15; that is, 3 feet in an arch of 45 feet; 4, 5, 6, in an arch of 60, 75, and 90 feet: and so the rest in the same proportion.

Table containing the thickness of piers of bridges.

	6	9	12	15	18	21	24
20	4.574	4.918	5.165	5.350	5.492	5.610	5.698
25	5.490	5.913	6.216	6.455	6.645	6.801	7.930
30	6.386	6.816	7.225	7.513	7.746	7.939	8.102
35	7.258	7.786	8.200	8.532	8.807	9.037	9.233
40	8.404	8.691	9.148	9.523	9.835	10.101	10.328
45	8.965	9.579	10.077	10.489	10.837	11.136	11.394
50	9.805	10.454	10.987	11.435	11.817	12.146	12.434
55	10.640	11.245	11.882	12.364	13.019	13.149	13.218
60	11.400	12.110	12.718	13.281	13.723	14.109	14.314
65	12.265	13.025	13.648	14.185	14.654	15.082	15.433
70	13.114	13.869	14.517	15.049	15.573	16.011	16.400
75	14.000	14.705	15.336	15.965	16.480	16.940	17.354
80	14.747	15.542	16.234	16.842	17.381	17.864	18.298
85	15.513	16.328	17.041	17.674	18.237	18.742	19.198
90	16.373	17.201	17.929	18.578	19.157	19.679	20.152
95	17.184	17.826	18.772	19.438	20.036	20.577	21.068
100	17.991	18.848	19.610	20.293	20.908	21.466	21.976

The first horizontal line expresses the height of the piers in feet, from six to 24 feet, each increasing by three; the first vertical column, the width of arches from 20 to 100 feet, for every five feet.

120  
Explanation  
of the  
table.

The other columns express the thickness of piers in feet and decimals, according to the respective height at the head of the column, and the width of the arch against it in the first column.

Thus, for example, let the width of the arch be 60 feet, and the height of the piers 12; then the number 12.718, under 12, and against 60, expresses the thickness of the piers, that is 12 feet and 8.6 inches: we must observe again, that the length of the key-stone is two feet in an arch of 30 feet wide; 3, 4, 5, 6, in an arch of 45, 60, 75, 90; that of 20 feet wide, one foot four inches; and the length of any other width is found by adding four inches for every five feet in width.

As this table contains the thicknesses of piers in respect to arches that are commonly used in practice, we imagined, that to carry it farther would be needless; because the difference between the thickness of the piers of any contiguous arches being but small, those between any two marked here, may be made equal to half the sum of the next below and above it: thus the thickness of the piers of an arch 52 or 53 feet wide is nearly equal to 10.222, half the sum of the thicknesses 9.085 and 10.64 of the arches 50 and 55 feet wide, when the height of the piers is six feet.

Rectangular piers are seldom used but in bridges over small rivers. In all others they project the bridge by a triangular prism, which presents an edge to the stream, in order to divide the water more easily, and to prevent

121  
Form of  
piers.



Practice.

prevent the ice from sheltering there, as well as vessels from running foul against them: that edge is terminated by the adjacent surfaces at right angles to each other at Westminster bridge, and makes an acute angle at the Pont Royal of about 60 degrees; but of late the French terminate this angle by two cylindric surfaces, whose bases are arcs of 60 degrees, in all their new bridges.

122  
Slope of the  
bridge on  
each side.

When the banks of the rivers are pretty high, the bridge is made quite level above, and all the arches of an equal width; but where they are low, or for the sake of navigation, a large arch is made in the middle of the stream, then the bridge is made higher in the middle than at the ends: in this case, the slope must be made easy and gradual on both sides, so as to form above one continued curve line, otherwise it appears disagreeable to the eye. Mr Belidor will have the descent of that slope to be one-twenty-fourth part of the length; but this is undoubtedly too much, as one-fiftieth part of the length is quite sufficient for the descent.

123  
Width, &c.

The width commonly allowed to small bridges is 30 feet: but in large ones near great towns, these 30 feet are allowed clear for horses and carriages, besides a banquet at each side for foot passengers of 6 to 9 feet each, raised about a foot above the common road; the parapet walls on each side are about 18 inches thick, and 4 feet high; they generally project the bridge with a cornice underneath: sometimes ballustrades of stone or iron are placed upon the parapet, as at Westminster; but this is only practised where a bridge of a great length is made near the capital of a country.

The ends of bridges open from the middle of the two large arches with two wings, making an angle of 45 degrees with the rest, in order to make their entrance more free and easy: these wings are supported by the same arches of the bridge next to them, being continued in the manner of an arch, of which one pier is much longer than the other.

*How the work is to be carried on.*

124  
Methods of  
laying the  
foundation.

As the laying the foundation of the piers is the most difficult part of the whole work, it is necessary we should begin with an easy case, that is, when the depth of the water does not exceed 6 or 8 feet; and then proceed to those which may happen in a greater depth of water.

125  
By batar-  
deaus.

One of the abutments, with the adjacent piers, is enclosed by a dyke called *batardeau* by the French, of a sufficient width for the work, and room for the workmen. This *batardeau* is made by driving a double row of piles, whose distance is equal to the depth of water, and the piles in each row are 3 feet from each other: they are fastened together on the outside by bonds of 6 by 4 inches: this being done, frames of about 9 feet wide are placed on the inside to receive the boards which are to form the enclosure: the two uprights of these frames are two boards of an inch and a half thick, sharpened below to be driven into the ground, and fastened together by double bonds, one below and the other above, each separated by the thickness of the uprights; these bonds serve to slide the boards between: after these frames have been driven into the ground as hard as can be, then the boards themselves are likewise driven in till they reach the firm ground underneath.

Practice.

Between every two piles tie-beams are fastened to the bonds of the piles, to fasten the inside wall to the outside one; these tie-beams are let into the bonds and bolted to the adjacent piles: this being done, the bottom is cleared from the loose sand and gravel, by a machine like those used by ballast-heavers; and then well prepared clay is rammed into this coffer very tight and firm, to prevent the water from oozing through.

Sometimes these enclosures are made with piles only driven close to each other; at others, the piles are notched or dove-tailed one into the other; but the most usual method is to drive piles with grooves in them, 5 or 6 feet distant from each other, and boards are let down between them.

This being done, pumps and other engines are used to draw the water out of the enclosures, so as to be quite dry; then the foundation is dug, and the stones are laid with the usual precautions, observing to keep some of the engines always standing, in order to draw out the water that may ooze through the *batardeau*.

The foundation being cleared, and every thing ready to begin the work, a course of stones is laid; the outside all round with the largest stretchers and headers that can be had, and the inside filled with ashlers well jointed, the whole laid in terrass mortar: the facings are cramp together, and set in lead; and some cramps are also used to fasten the facings with the inside. The same manner is to be observed throughout all the courses to the height of low water mark; after which the facings alone are laid in terrass mortar, and the inside with the best of the common fort. When the foundation is carried to the height of low water mark, or to the height where the arches begin, then the shaft or middle wall is to be carried up nearly to the height of the arches, and there left standing till all the piers are finished, in order that the masonry may be sufficiently dry and settled before the arches are begun.

126  
Proper  
form of the  
base.

As the piers end generally with an arch at each end, it is customary to lay the foundation in the same manner: which is not so well as to continue the base rectangular quite to the ends of the piers, and as high as low water mark; both because the foundation becomes then so much broader, and also because the water will not be able to get under it: for when the current sets against a flat surface, it drives the sand and mud against it so as to cover it entirely; whereas if a sharp edge be presented to the stream, it carries every thing away, and exposes the foundation to the continual action of the water, which in course of time must destroy it.

After the intervals between the arches are filled up with stones laid in a regular manner without mortar, and the gravel is laid over them; two drains or gutters are to be made lengthwise over the bridge, one on each side next to the foot-path, about six feet wide and a foot deep; which being filled with small pebble stones, serve to carry off the rain water that falls on the bridge, and to prevent its filtering through the joints of the arches, as often happens.

The former method of laying the foundation by means of *batardeaus* is very expensive, and often meets with great difficulties: for when the depth of water is 8 feet or more, it is scarcely possible to make the *batardeaus* so tight as to prevent the water from oozing through them; and in that case the number of engines required, as well as the hands to work them, becomes very

127  
Method of  
building  
with coffers,  
as was prac-  
tised at  
Westmin-  
ster bridge.



**Practice.** very extensive; and if part of the batardeau should break by some extraordinary wind or tide, the workmen would be exposed to very great danger.

The next and best method therefore is to build with coffer, when it is practicable, such as were used at Westminster bridge. Here the height of water was 6 feet at a medium when lowest, and the tide rose about 10 feet at a medium also: so that the greatest depth of water was about 16 feet. At the place where one of the piers of the middle or great arch was to be, the workmen began to drive piles of about 13 or 14 inches square, and 34 feet long, shod with iron, so as to enter into the gravel with more ease, and hooped above to prevent their splitting in driving them: these piles were driven as deep as could be done, which was 13 or 14 feet below the surface of the bed of the river, and 7 feet distant from each other, parallel to the short ends of the pier, and at about 30 feet distant from them: the number of these piles was 34, and their intent to prevent any vessels or barges from approaching the work; and in order to hinder boats from passing between them, booms were placed so as to rise and fall with the water.

This being done, the ballast-men began to dig the foundation under the water of about 6 feet deep, and 5 wider all round than the intended coffer was to be, with an easy slope to prevent the ground from falling in: in order to prevent the current from washing the sand into the pit, short grooved piles were driven before the two ends and part of the sides, not above 4 feet higher than low water mark, and about 15 feet distant from the coffer: between these piles rows of boards were let into the grooves down to the bed of the river, and fixed there.

The bottom of the coffer was made of a strong grate, consisting of two rows of large timbers, the one longways, and the other crossways, bolted together with wooden trunnels ten feet wider than the intended foundation. The sides of the coffer were made with fir timbers laid horizontally close one over another, pinned with oaken trunnels, and framed together at the corners, excepting at the two salient angles, where they were secured with proper irons, so that the one half might be loosened from the other if it should be thought necessary; these sides were lined on the inside as well as on the outside with three inch planks placed vertically; the thickness of those sides was 18 inches at the bottom, reduced to 15 above, and they were 16 feet high; besides, knee timbers were bolted at the angles, in order to secure them in the strongest manner. The sides were fastened to the bottom by 28 pieces of timber on the outside, and 18 within, called *straps*, about 8 inches broad, and 3 or 4 inches thick, reaching and lapping over the ends of the sides: the lower part of these straps had one side cut dove-tail fashion, in order to fit the mortises made near the edge of the bottom to receive them, and were kept in their places by iron wedges; which being drawn out when the sides were to be taken away, gave liberty to clear the straps from the mortises.

Before the coffer was launched, the foundation was examined, in order to know whether it was level; for which purpose several gauges were made, each of which consisted of a stone of about 15 inches square and three thick, with a wooden pole in the middle of about 18

feet long. The foundation being levelled and the coffer fixed directly over the place with cables fastened to the adjacent piles, the masons laid the first course of the stones for the foundation within it; which being finished, a sluice made in the side was opened near the time of low water; on which the coffer sunk to the bottom; and if it did not set level, the sluice was shut, and the water pumped out, so as to make it float till such time as the foundation was levelled: then the masons cramped the stones of the first course, and laid a second; which being likewise cramped, a third course was laid: then the sluice being opened again, proper care was taken that the coffer should settle in its due place. The stone work being thus raised to within two feet of the common low water mark, about two hours before low water the sluice was shut, and the water pumped out so far as that the masons could lay the next course of stone, which they continued to do till the water was risen so high as to make it unsafe to proceed any further: then they let off the work, and opened the sluice to let in the water. Thus they continued to work night and day at low water till they had carried their work some feet higher than the low water mark: after this, the sides of the coffer were loosened from the bottom, which made them float; and then were carried ashore to be fixed to another bottom, in order to serve for the next pier.

It must be observed, that the coffer being no higher than 16 feet, which is equal to the greatest depth of water, and the foundation being 6 feet under the bed of the river; the coffer was therefore 6 feet under water when the tide was in; but being loaded with three courses of stones, and well secured with ropes fastened to the piles, it could not move from its place. By making it no higher, much labour and expence were saved; yet it answered the intent full as well as if it had been high enough to reach above the highest flood.

The pier being thus carried on above low water mark, the masons finished the rest of it during the intervals of the tides in the usual way; and after all the piers and abutments were finished in a like manner, the arches were begun and completed as mentioned before: the whole bridge was built in about seven years, without any accidents happening either in the work or to the workmen, which is seldom the case in works of this nature.

It may be observed, that all the piers were built with solid Portland stone, some of which weighed four tons. The arch stones were likewise of the same sort: but the rest of the masonry was finished with Kentish rag-stones; and the paths for foot passengers were paved with *purbec*, which is the hardest stone to be had in England, excepting Plymouth marble.

This method of building bridges is certainly the easiest and cheapest that can be thought of, but cannot be used in many cases: when the foundation is so bad as not to be depended upon without being piled, or the depth of water is very great, with a strong current and no tide, it cannot then be practised. For if piles are to be used, it will be next to impossible to cut them off in the same level five or six feet below the bed of the river, notwithstanding that saws have been invented for that purpose: because if they are cut off separately, it will be a hard matter to do it so nicely that the one shall not exceed the other in height; and if this is not done,

**Practice.**

128

Materials employed.

129

This method sometimes impracticable.



Practice.

done, the grating or bottom of the coffer will not be equally supported, whereby the foundation becomes precarious: neither can they be cut off altogether; for piles are to be driven as far as the bottom of the coffer extends, which at Westminster bridge was 27 feet; the saw must have three feet play, which makes the total length of the saw 30 feet; now, if either the water is deeper than it is there, or the arches are wider, the saw must still be longer, so that this method is impracticable in any such cases.

In a great depth of water that has a strong current and no tide, the coffers must reach above the water, which makes them very expensive, and unwieldy to manage, as well as very difficult to be secured in their places, and kept steady; so that there is no probability of using them in such a case.

130  
Russian method.

In some cases, where there is a great depth of water, and the bed of the river is tolerably level, or where it can be made so by any contrivance, a very strong frame of timber, about four times as large as the base of the piers may be let down with stones upon it round the edges to make it sink: after fixing it level, piles must be driven about it to keep it in its place; and then the foundation may be laid in coffers as before, which are to be kept steady by means of ropes tied to the piles.

This method has frequently been used in Russia; and though the bed of the river is not very solid, yet such a grate, when once well settled with the weight of the pier upon it, will be as firm as if piles had been driven under the foundation; but to prevent the water from gulling under the foundation, and to secure it against all accidents, a row of dove-tail piles must be driven quite round the grating: this precaution being taken, the foundation will be as secure as any that can be made.

131  
French method.

The French engineers make use of another method in raising the foundations of masonry under water; which is, to drive a row of piles round the intended place, nearer to, or farther from, each other, according as the water is more deep or shallow: these piles being strongly bound together in several places with horizontal tie-beams, serve to support a row of dove-tail piles driven within them: when this is done, and all well secured according to the nature of the situation and circumstances, they dig the foundation by means of a machine with scoops, invented for that purpose, until they come to a solid bed of gravel or clay; or if the bed of the river is of a soft consistence to a great depth, it is dug only to about six feet, and a grate of timber is laid upon it, which is well secured with piles driven into the opposite corners of each square, not minding whether they exceed the upper surface of the grate much or little.

When the foundation is thus prepared, they make a kind of mortar called *beton*, which consists of twelve parts of pozolano or Dutch terrass, six of good sand, nine of unflaked lime, the best that can be had, thirteen of stone splinters not exceeding the bigness of an egg, and three parts of tile dust, or cinders, or else scales of iron out of a forge: this being well worked together must be left standing for about 24 hours, or till it becomes so hard as not to be separated without a pick-axe.

This mortar being thus prepared, they throw into the coffer a bed of rubble stone, not very large, and

Practice.

spread them all over the bottom as nearly level as they can; they then sink a box full of this hard mortar, broken into pieces, till it come within a little of the bottom; the box is so contrived as to be overfet or turned upside down at any depth; which being done, the pieces of mortar soften, and so fill up the vacant spaces between the stones; by these means they sink as much of it as will form a bed of about 12 inches deep all over; then they throw in another bed of stone, and continue alternately to throw one of mortar and one of stone till the work approaches near the surface of the water where it is levelled, and then the rest is finished with stones in the usual manner.

Mr Belidor says, in the second part of his *Hydraulics*, vol. ii. p. 188, that Mr Millet de Montville having filled a coffer containing 27 cubic feet, with masonry made of this mortar, and sunk it into the sea, it was taken left standing for two months, and when it was taken out again it was harder than stone itself.

We have hitherto mentioned such situations only where the ground is of soft nature: but where it is rocky and uneven, all the former methods prove ineffectual; nor indeed has there yet been any one proposed which can be always used upon such occasions, especially in a great depth of water. When the water is not so deep but that the unevenness of the rock can be perceived by the eye, piles strongly shod with iron may be raised and let fall down, by means of a machine, upon the higher parts, so as to break them off piece by piece, till the foundation is tolerably even, especially when the rock is not very hard; which being done either this or any other way that can be thought of, a coffer is made without any bottom, which is let down and well secured, so as not to move from its place: to make it sink, heavy stones should be fixed on the outside; then strong mortar and stones must be thrown into it; and if the foundation is once brought to a level, large hewn stones may be let down so as to lie flat and even: by these means the work may be carried on quite up to the surface of the water. But when the water is so deep, or the rock so hard as not to be levelled, the foundation must be founded, so as to get nearly the risings and fallings; then the lower part of the coffer must be cut nearly in the same manner, and the rest finished as before. It must however be observed, that we suppose a possibility of sinking a coffer; but where this cannot be done, no method that we know of will answer.

Among the aquatic buildings of the ancients none appears to have been more magnificent than Trajan's bridge. Dion Cassius gives the following account of it: "Trajan built a bridge over the Danube, which in truth one cannot sufficiently admire; for though all the works of Trajan are very magnificent, yet this far exceeds all the others: the piers were 20 in number, of square stone: each of them 150 feet high above the foundation, 60 feet in breadth, and distant from one another 170 feet. Though the expence of this work must have been exceeding great, yet it becomes more extraordinary by the river's being very rapid, and its bottom of a soft nature: where the bridge was built, was the narrowest part of the river thereabout, for in most others it is double or treble this breadth; and although on this account it became so much the deeper and the more rapid, yet no other place was so suitable

132  
Impossibility of building bridges in some cases.133  
Trajan's bridge over the Danube described.



<sup>Practice.</sup> for this undertaking. The arches were afterwards broken down by Adrian; but the piers are still remaining, which seem as it were to testify that there is nothing which human ingenuity is not able to effect." The whole length then of this bridge was 1590 yards; some authors add, that it was built in one summer, and that Apollodorus of Damascus was the architect, who left behind him a description of this great work.

<sup>134</sup>  
Wooden  
bridges.

Where stone bridges cannot be erected on account of the expence, very strong and durable ones may be constructed of wood: in which case they ought to be so framed, as that all the parts may press upon one another, like the arch of a stone bridge; and thus, instead of being weakened by great weights passing over them, they will become the stronger. How this is to be accomplished, will be better understood from the figure at bottom of Plate LIV. which represents a wooden bridge constructed after this manner, than it can be by any description.

## 2. OF HARBOURS.

<sup>135</sup>  
Situation  
proper for  
harbours.

In these, the first thing to be considered is the situation; which may be some large creek or basin of water, in or near the place where the harbour is intended to be made, or at the entrance of a large river, or near the sea: for a harbour should never be dug entirely out of dry land, unless upon some extraordinary occasions, where it is impossible to do otherwise, and yet a harbour is absolutely necessary. When a proper place is found, before it is fixed upon, it must be considered whether ships can lie there safe in stormy weather, especially when those winds blow which are most dangerous upon that coast; whether there be any hills, rising ground, or high buildings, that will cover it; in these cases, the situation is very proper: but if there be nothing already that will cover the ships, it must be observed whether any covering can be made at a moderate expence, otherwise it would be useless to build a harbour there.

The next thing to be considered is, whether there be a sufficient depth of water for large ships to enter with safety, and lie there without touching the ground; and if not, whether the entrance and inside might not be made deeper at a moderate expence: or, in case a sufficient depth of water is not to be had for large ships, whether the harbour would not be useful for small merchantmen; for such a one is often of great advantage, when situated upon a coast much frequented by small coasting vessels.

The form of the harbour must be determined in such a manner, that the ships which come in when it is stormy weather may lie safe, and so as there may be sufficient room for as many as pass that way: the depths of water where the piers are to be built must be taken at every 10, 15, or 20 feet distance, and marked upon piles driven here and there, in order that the workmen may be directed in laying the foundation.

<sup>136</sup>  
Materials.

This being done, it must be considered what kind of materials are to be used, whether stone, brick, or wood. When stones are to be had at a moderate price, they ought to be preferred, because the work will be much stronger, more lasting, and need fewer repairs, than if made with any other materials: but when stones are

scarce, and the expence becomes greater than what is <sup>Practice.</sup> allowed for building the harbour, the foundation may be made of stone as high as low water mark, and the rest finished with brick. If this manner of building should still be too expensive, wood must be used; that is, piles are driven as close as is thought necessary; which being fastened together by cross bars, and covered with strong oaken planks, form a kind of coffer, which is filled with all kinds of stones, chalk, and shingles.

The manner of laying the foundation in different <sup>137</sup>French me-  
depths of water, and in various soils, requires particu-  
lar methods to be followed. When the water is very <sup>thod of building.</sup>  
deep, the French throw in a great quantity of stones at random, so as to form a much larger base than would be required upon dry land; this they continue to within 3 or 4 feet of the surface of the water, where they lay the stones in a regular manner, till the foundation is raised above the water: they then lay a great weight of stones upon it, and let it stand during the winter to settle; as likewise to see whether it is firm, and resists the force of the waves and winds: after that, they finish the superstructure with large stones in the usual manner.

As this method requires a great quantity of stones, <sup>138</sup>A prefer-  
it can be practised only in places where stones are in-  
plenty; and therefore the following one is much prefer-  
able one.  
ferable. A coffer is made with dove-tail piles, of about 30 yards long, and as wide as the thickness of the foundation is to be; then the ground is dug and levelled, and the wall is built with the best mortar.

As soon as the mortar is tolerably dry, those piles at the end of the wall are drawn out, the side rows are continued to about 30 yards farther, and the end enclosed; then the foundation is cleared, and the stones laid as before. But it must be observed, that the end of the foundation finished is left rough, in order that the part next to it may incorporate with it in a proper manner; but if it is not very dry, it will incline that way of itself, and bind with the mortar that is thrown in next to it: this method is continued till the whole pier is entirely finished.

It must likewise be observed, that the piers are not made of one continued solid wall; because in deep water it would be too expensive: for which reason, two walls are built parallel to each other, and the interval between them is filled up with shingle, chalk, and stone. As these walls are in danger of being thrust out or overset by the corps in the middle, together with the great weight laid at times on the pier, they are tied or bound together by cross walls at every 30 or 40 yards distance, by which they support each other in a firm and strong manner.

In a country where there is great plenty of stones, piles may be driven in as deep as they will go, at about two or three feet distance; and when the foundation is sunk and levelled, large stones may be let down, which will bed themselves: but care must be taken to lay them close, and so as to have no two joints over each other; and when the wall is come within reach, the stones must be cramp together.

Another method practised is to build in coffers much <sup>139</sup>Another  
after the same manner as has been done in building the <sup>method</sup>  
piers of Westminster bridge; but as in this case the <sup>with coffers.</sup>  
ends of the coffers are left in the wall, and prevent their  
joining



Practice.

joining so well as to be water tight, the water that penetrates through and enters into the corps may occasion the wall to burst and to tumble down. Another inconveniency arising from this manner of building is, that as there are but few places without worms, which will destroy wood wherever they can find it; by their means the water is let into the pier, and consequently makes the work liable to the same accident as has been mentioned above.

140  
Russian method.

To prevent these inconveniencies, the best method is to take the wood away, and joggle the ends of the walls together with large stones, pouring terrass mortar into the joints; when this is done, the water between the two walls may be pumped out, and the void space filled up with stone and shingle as usual; or if these joggles cannot be made water tight, some dovè-tail piles must be driven at each end as close to the wall as can be done, and a strong sail cloth put on the outside of them, which, when the water is pumped out, will stick so close to the piles and wall, that no water can come in. This method is commonly used in Russia.

141  
Thickness of piers.

The thickness of a pier depends on two considerations: it ought to be both such as may be able to resist the shock of the waves in stormy weather; and also to be of a sufficient breadth above, that ships may be laden or unladen whenever it is thought necessary. Now, because the specific gravity of sea water is about one half that of brick, and as 2 to 5 in comparison of stone; and since the pressure of stagnated water against any surface is equal to the weight of a prism of water whose altitude is the length of that surface, and whose base is a right-angled isosceles triangle, each of the equal sides being equal to the depth of the water; therefore a pier built with bricks, whose thickness is equal to the depth of the water, will weigh about four times as much as the pressure of the water against it; and one of stone of the same breadth, about six times and a quarter as much. Now this is not the force to be considered, since this pressure is the same within as without the pier: but it is that force with which the waves strike against the piers, and that depends on the weight and velocity of the waves, which can hardly be determined; because they vary according to the different depths of water, the distance from the shore, and according to the tides, winds, and other causes. Consequently the proper thickness of the

piers cannot be determined by any other means than by experience.

Practice.

Practitioners suppose, that if the thickness of a pier is equal to the depth of the water, it is sufficient; but for a greater security they allow 2, 3, or 4 feet more. This might probably do, if piers were built with solid stones cramp together; but as this is hardly ever the case, and on the contrary, as the inside is filled up with shingle, chalk, or other loose materials, their rule is not to be depended upon; besides it makes the space above too narrow for lading and unlading the ships, unless in a great depth of water; so that it does not appear that their method can be followed, excepting in a very few cases where the water has but very little motion.

When stone can be had, no other materials should be used, because they being of a larger bulk than brick, will better resist the waves by their own weight, till such time as the mortar is grown hard; for after this is effected, brick will resist better against the action of sea water than soft stones.

The wall must be built with terrass mortar from the bottom to the height of low water mark, and the rest finished with cinder or tile-dust mortar, which has been found sufficiently good in those places where the wall is wet and dry alternately. The upper part of the pier should be paved with flat hewn stones laid in strong mortar, in order to prevent any water from penetrating into it: iron rings ought also to be fixed here and there at proper distances, to fasten the ships, and prevent them from striking against the pier when agitated by the waves.

Wooden fenders or piles should be driven at the inside close to the wall, and cramp to it with iron, to prevent the ships from touching them, and from being worn by the continual motion. Where the sea breaks against the piers with great violence, breakers should be made at proper distances; that is, two rows of piles are driven nearly at right angles to the piers for the length of about 12 or 15 feet, and at about 8 or 10 feet distant from each other; and then another to join the two former: these piles being covered with planks, and the inside being filled with shingles and rubble stones, then the top is paved with stones of about a foot in length, set longwise to prevent the waves from tearing them up. This precaution is absolutely necessary where the water rushes in very strongly.

## A R C

Architect-  
ture  
||  
Architri-  
clinus.

*Military ARCHITECTURE*, the same with what is otherwise called *fortification*. See FORTIFICATION.

*Naval ARCHITECTURE*, the art of building ships. See SHIP-BUILDING.

ARCHITRAVE, in *Architecture*, that part of a column which lies immediately upon the capital, being the lowest member of the entablature. See Plate XXXIX.

Over a chimney, this member is called the *mantle-piece*; and over doors or windows, the *hyperthyron*.

ARCHITRICLINUS, in *Antiquity*, the master or director of a feast, charged with the order and eco-

## A R C

nomy of it, the covering and uncovering of the tables, Archivault, the command of the servants, and the like.

The architriclinus was sometimes called *servus trichlinarcha*, and by the Greeks *πρωτεύς*, i. e. *præfulator*, or *foretaster*. Potter also takes the architriclinus for the same with the symposiarcha.

ARCHIVAULT, in *Architecture*, implies the inner contour of an arch, or a band adorned with mouldings, running over the faces of the arch stones, and bearing upon the imposts. It has only a single face in the Tuscan order, two faces crowned in the Doric and Ionic, and the same mouldings as the architrave in the Corinthian and Composite.

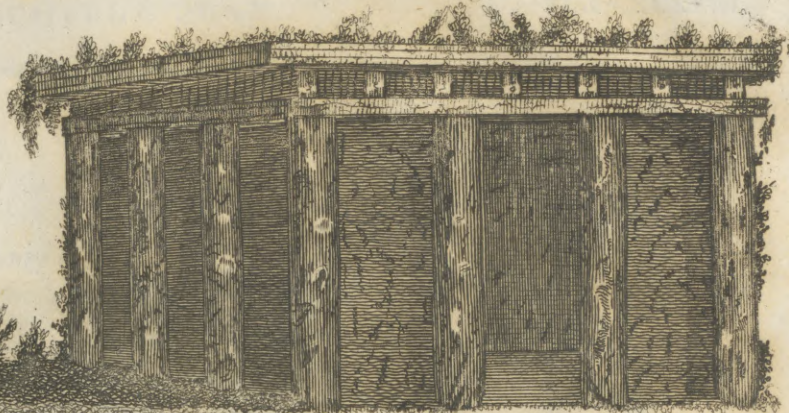
ARCHIVE,



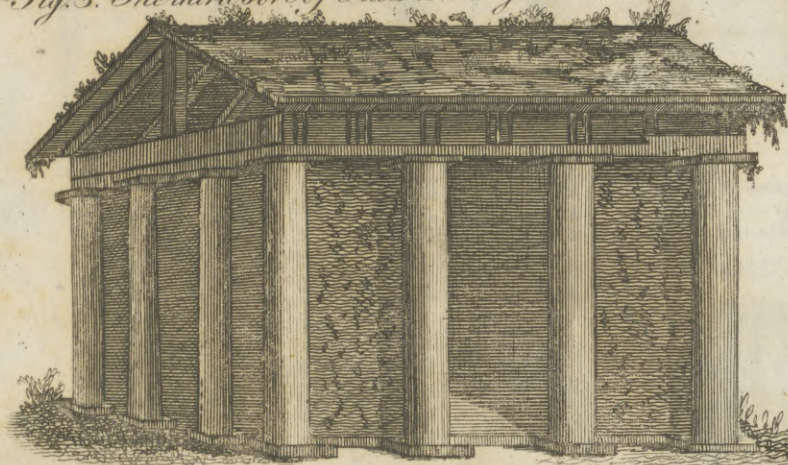
*Fig. 1.*  
*The first sort of Fluts.*



*Fig. 2.*  
*The second sort of Fluts.*



*Fig. 3.* *The third sort of Fluts which gave rise to the Doric Order.*

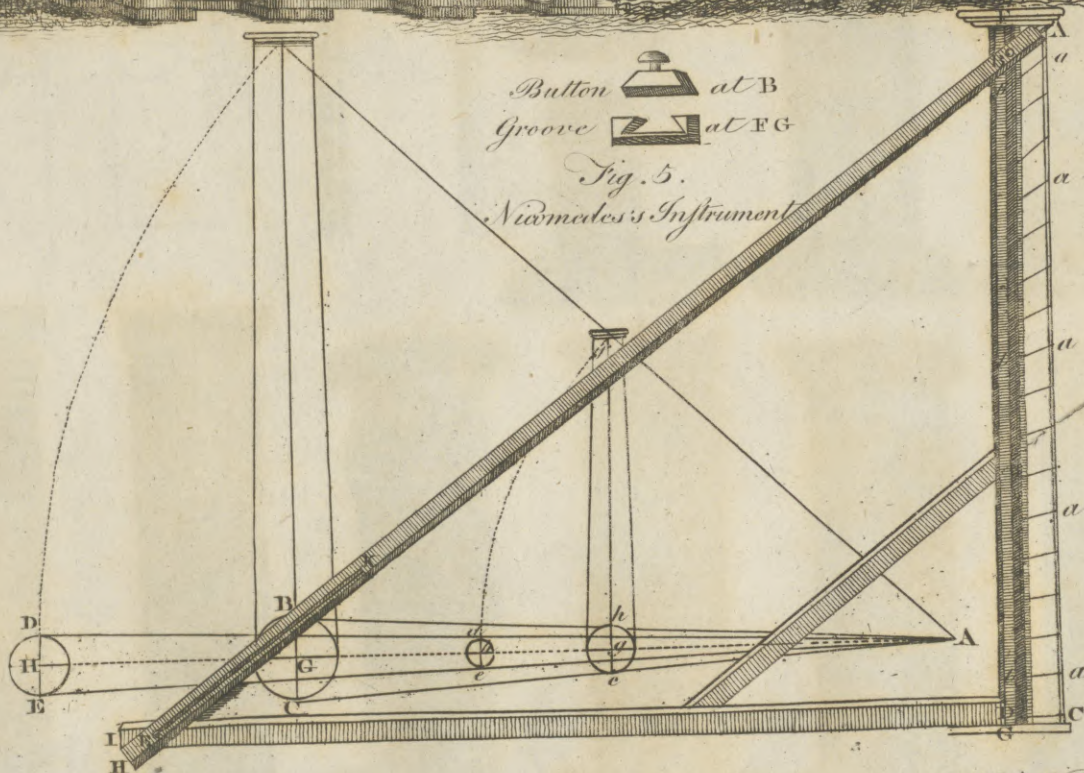


*Fig. 4.*  
*Origin of the Corinthian Order.*



Balton  at B  
Groove  at FG

*Fig. 5.*  
*Nicomedes's Instrument*



*A Bell Prin. Wal. Sculptor fecit.*







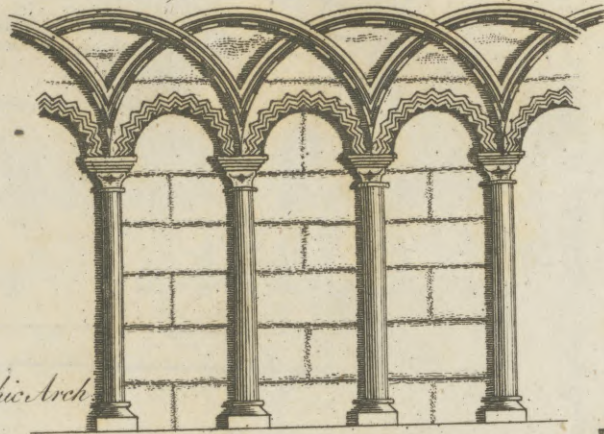
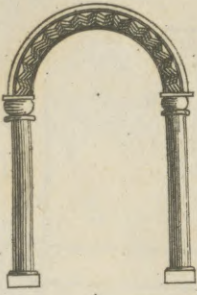
*Saxon Capitals.*



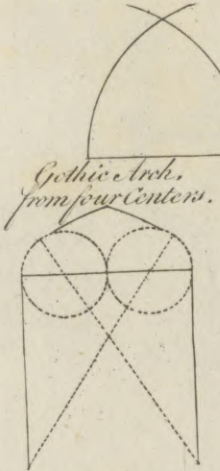
*Saxon Arches.*

*Saxon Arch.*

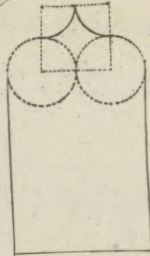
*Saxon Arch.*



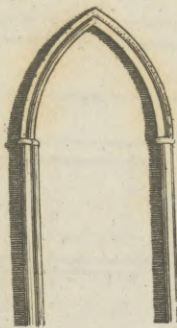
*Method of describing a Gothic Arch.*



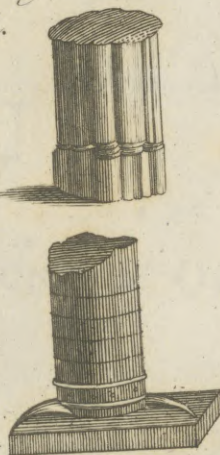
*Contrasted Gothic Arch.*



*Common Gothic Arch.*



*Gothic Colum.*





1877/22-3011

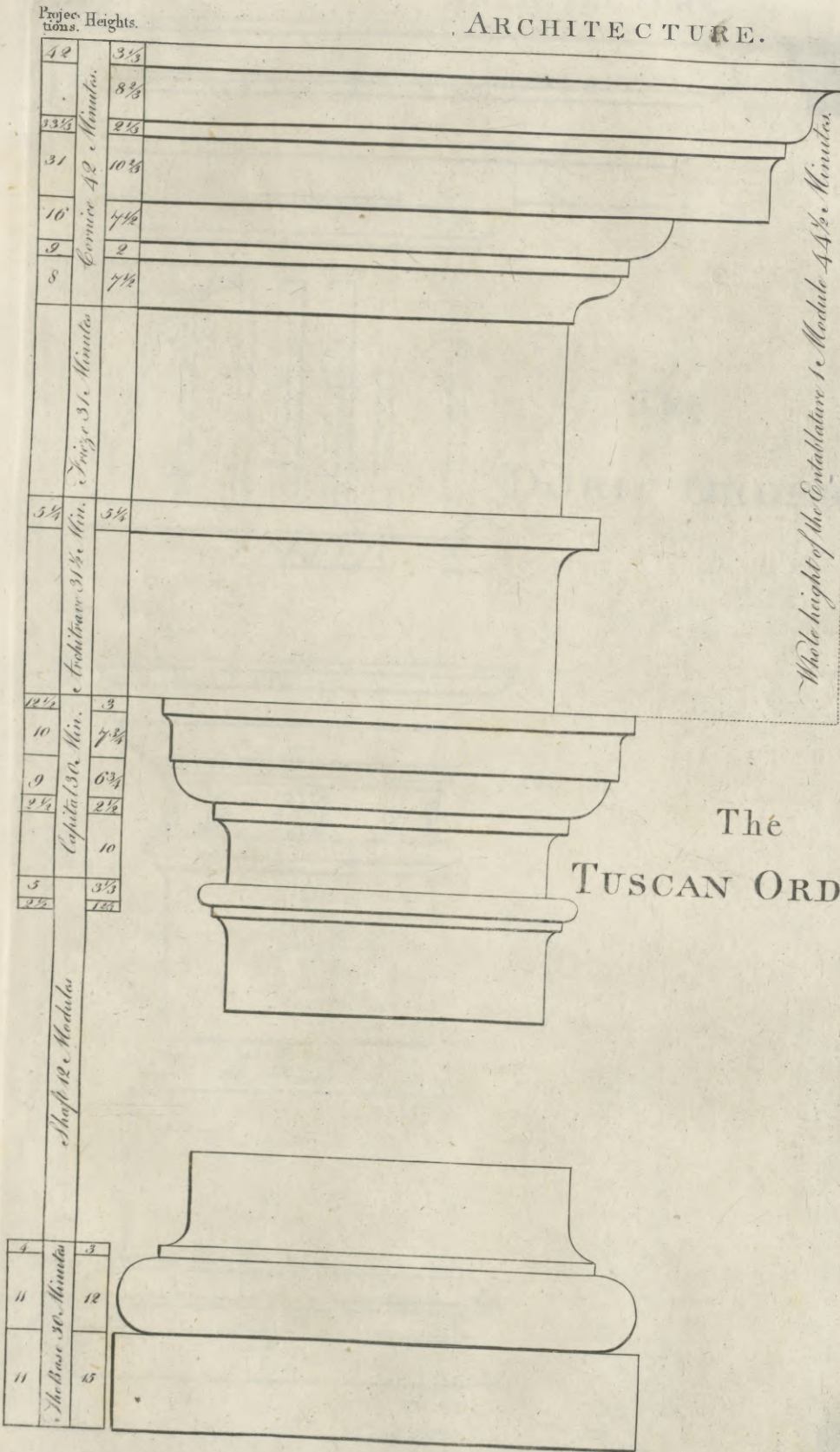
1877/22-3011





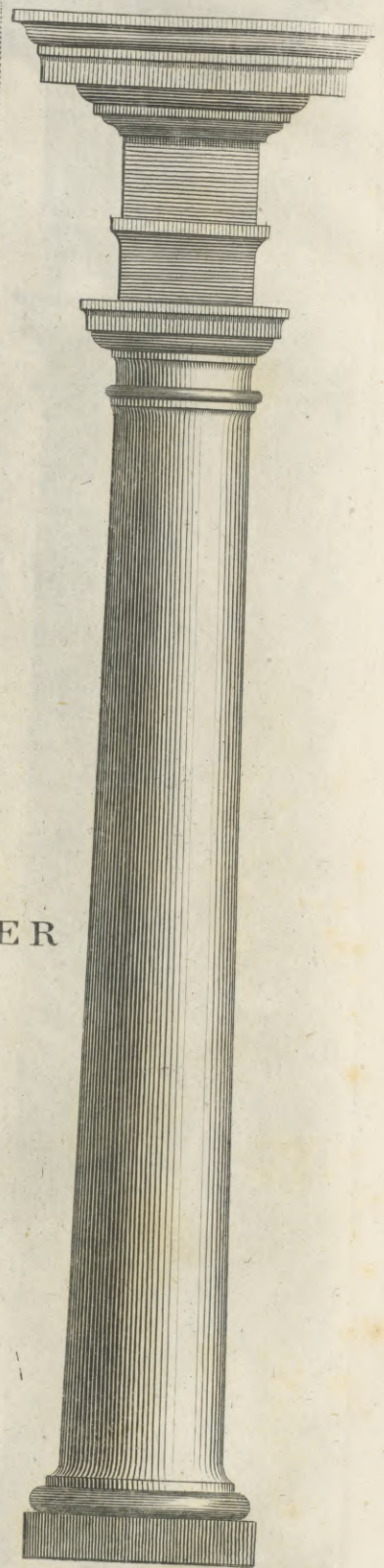
ARCHITECTURE.

Plate XXXIX.



Whole height of the Entablature 1. Modulo 44 1/2. Minuta.

The TUSCAN ORDER



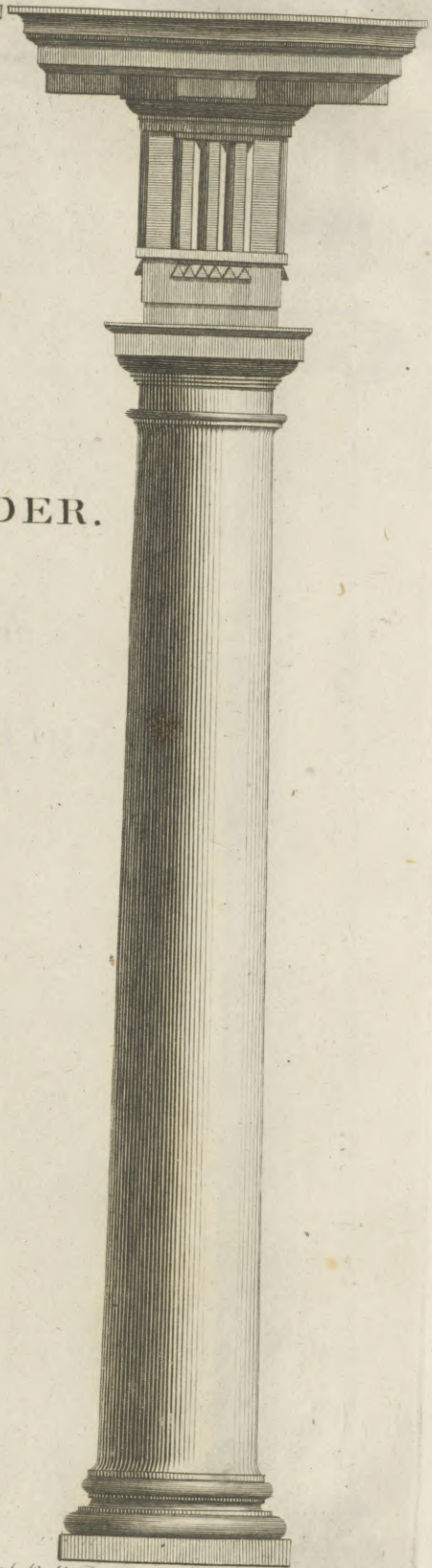
A. Bell. Pin. W. Sculptor fecit.







The DORIC ORDER.



A. Bell. Pin. Nat. Sculptor fecit.

Projections Heights.

27	27
50	7
27	27
45	8 1/2
42 1/2	27
40	7 1/2
9	5 1/4
1	1 1/4
3 1/2	5
45 Minutes	
3 1/2	5
3 1/2	4
30 Minutes	
27 1/2	27 1/2
12 1/2	27 1/2
40 1/2	7 3/8
4 1/2	6 1/8
1 1/2	4
37 1/2 Minutes	
3	3 1/2
2 1/2	2 3/4
43 Minutes 28 Seconds	
25	27
7	5 1/2
1	4 1/2
50 Minutes	
4 1/2	7 1/4
4 1/2	10



50 Minutes  
60 Minutes



PLATE I

ARCHITECTURE



THE  
DORIC ORDER

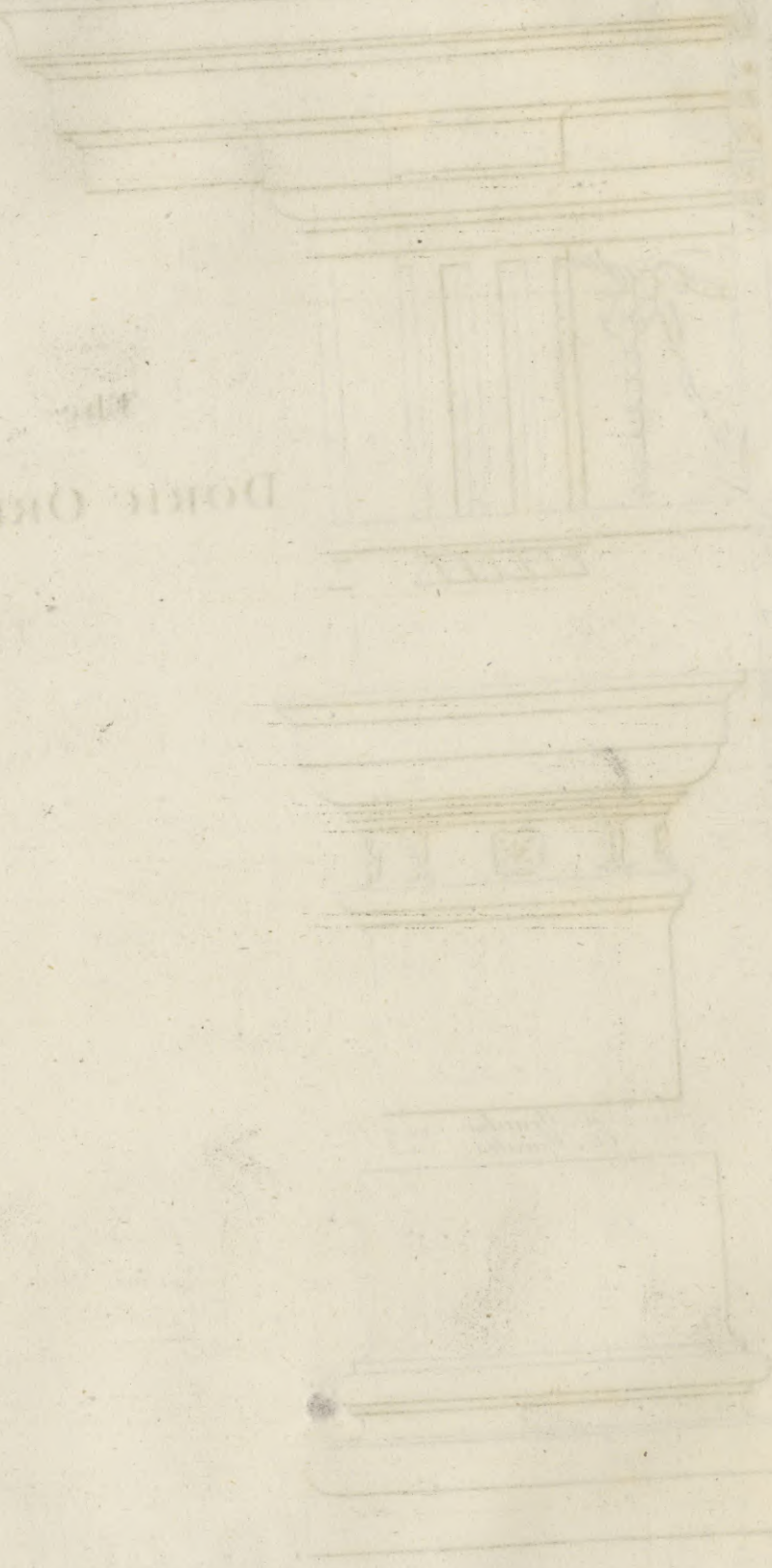


PLATE I

ARCHITECTURE

THE  
DORIC ORDER

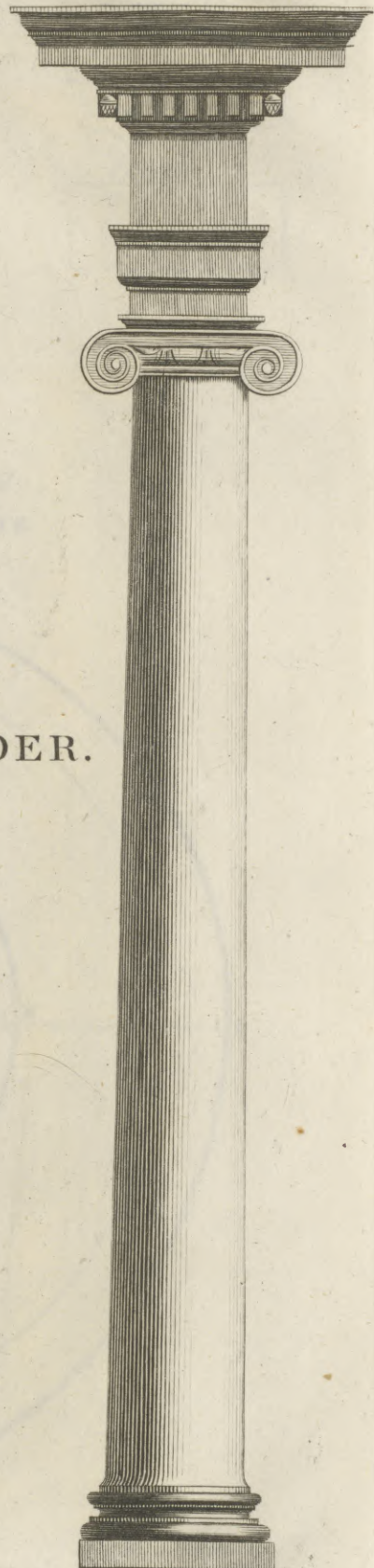
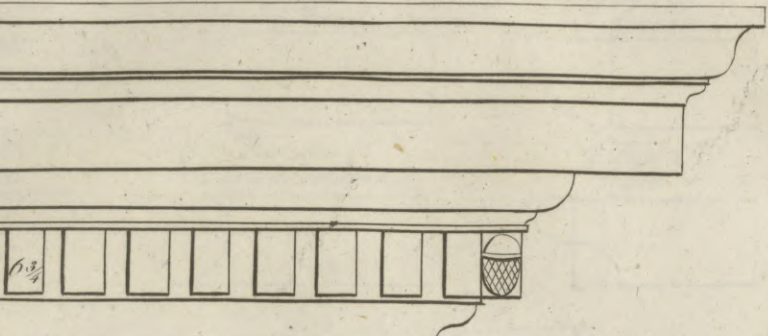
PLATE I

ARCHITECTURE

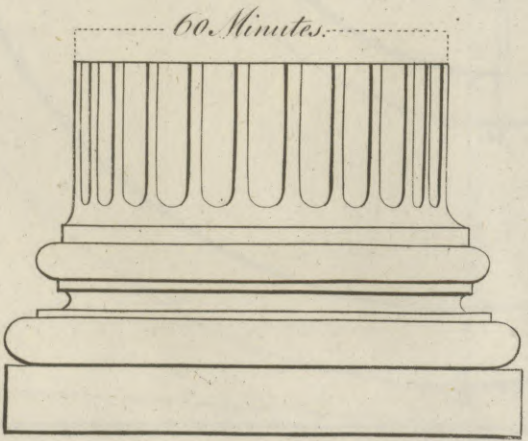
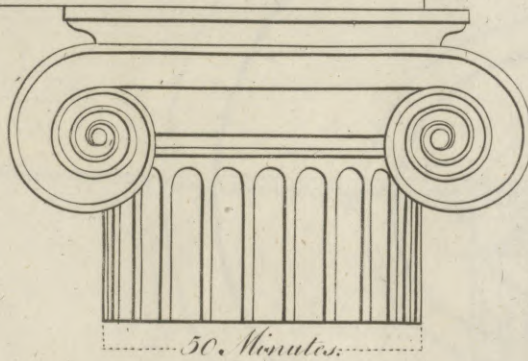
THE  
DORIC ORDER



Projections.	Heights.
34	23
48	8 1/2
44 1/2	3
41	11
23	6 3/4
17	3
15	10 1/2
8 1/2	1
7 1/2	6 3/4
40 1/2 Minutes	
8 3/4	2 1/2
8	6 1/2
3 1/3	13 1/2
2 2/3	2 3/4
2 1/4	1 1/2
40 1/2 Minutes	
7 3/4	2 1/2
7 1/4	3 3/4
1 3/4	5 3/8
10 1/2	7 3/8
4 1/2	3 1/2
2 1/2	2 3/4
12 Minutes	
16 Modules, 9 Minutes	
3 3/4	2 1/2
7	5 3/4
4	1
1 1/2	4 3/4
11 3/4	7 1/2
11 3/4	10
30 Minutes	



The  
**IONIC ORDER.**



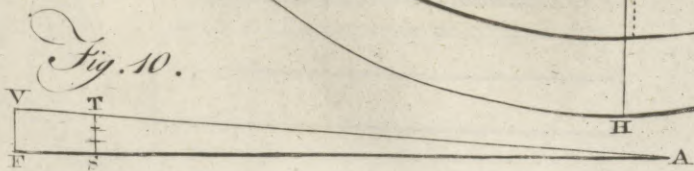
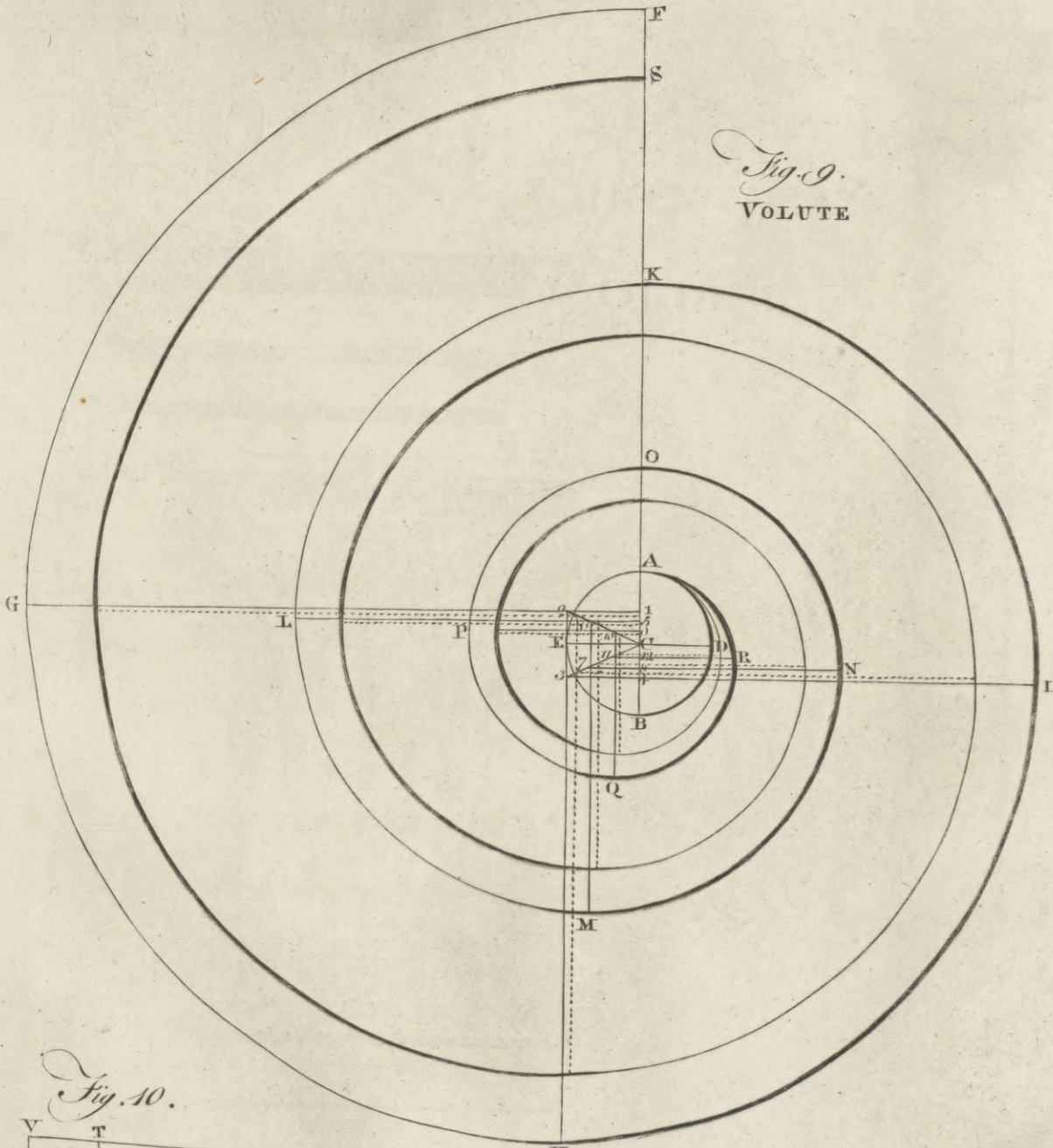
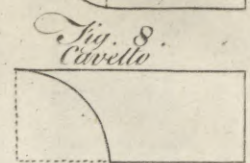
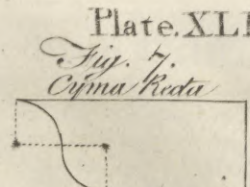
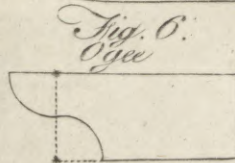
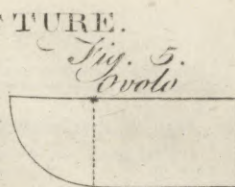
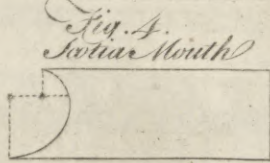
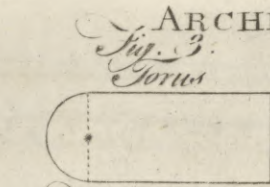
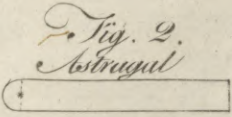
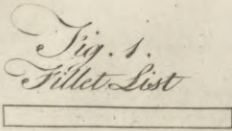
*S. Bell. Pin. W. R. Sculptor fecit.*







ARCHITECTURE.



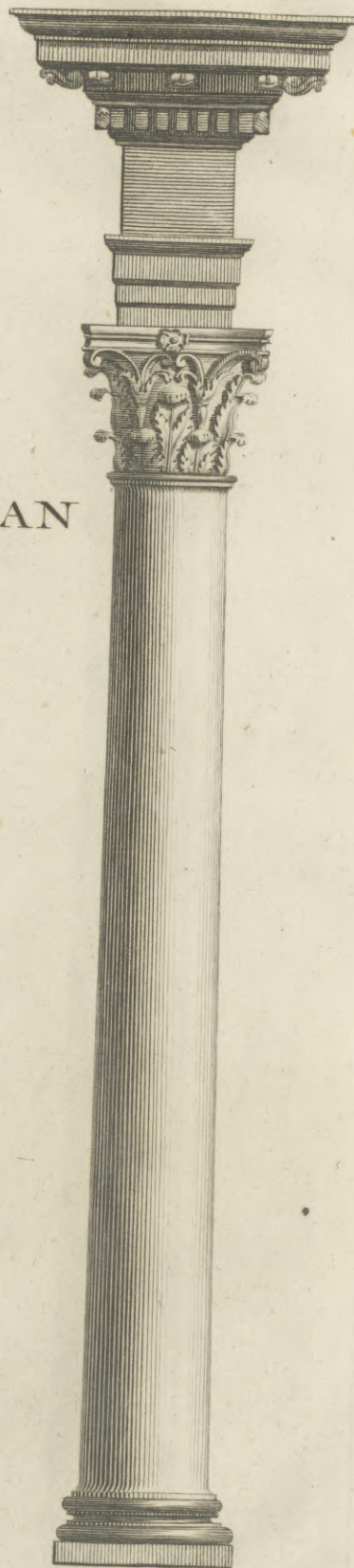
*A. Bell Sculp.*



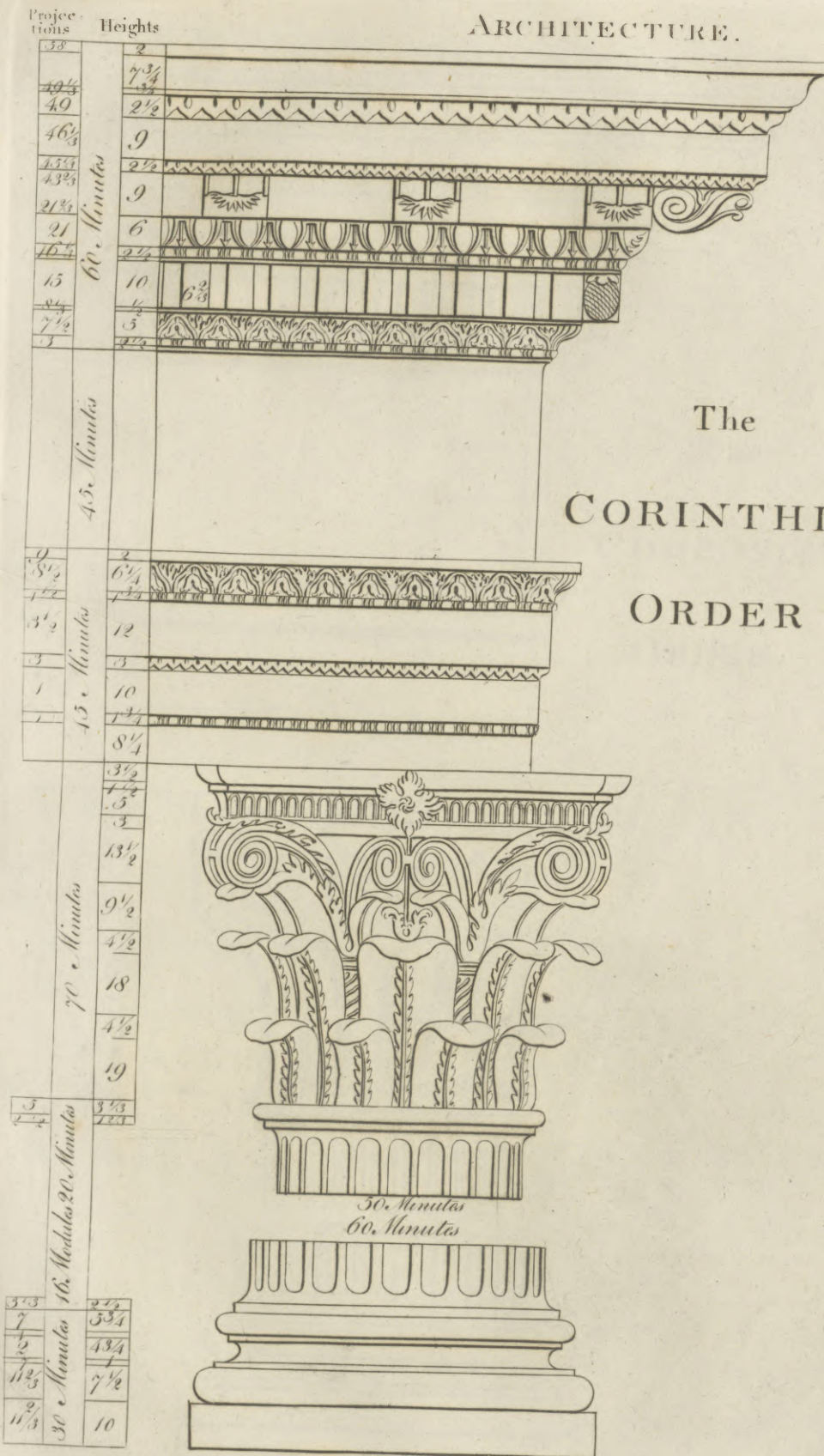




The  
CORINTHIAN  
ORDER



*A. Bell Pin. W. G. Sculptor fecit*





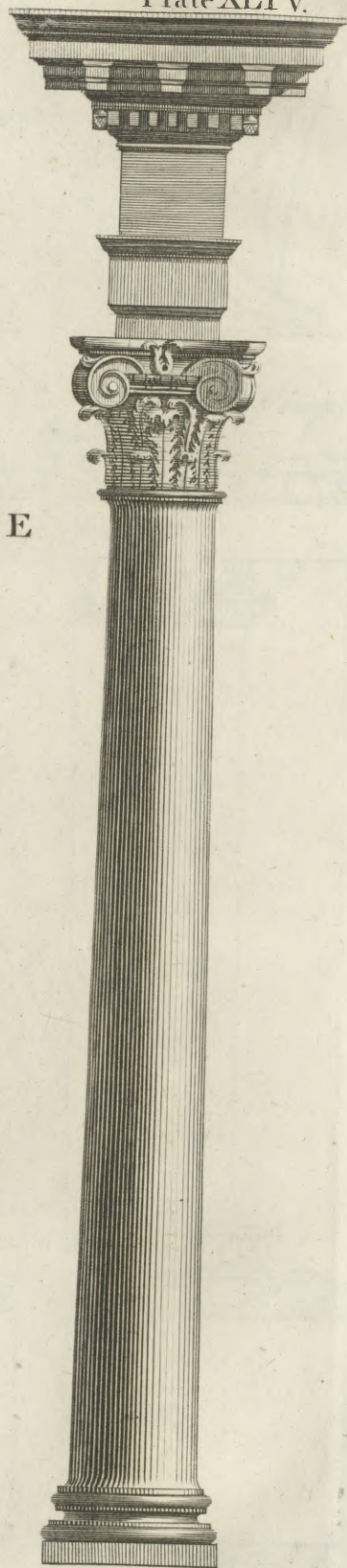
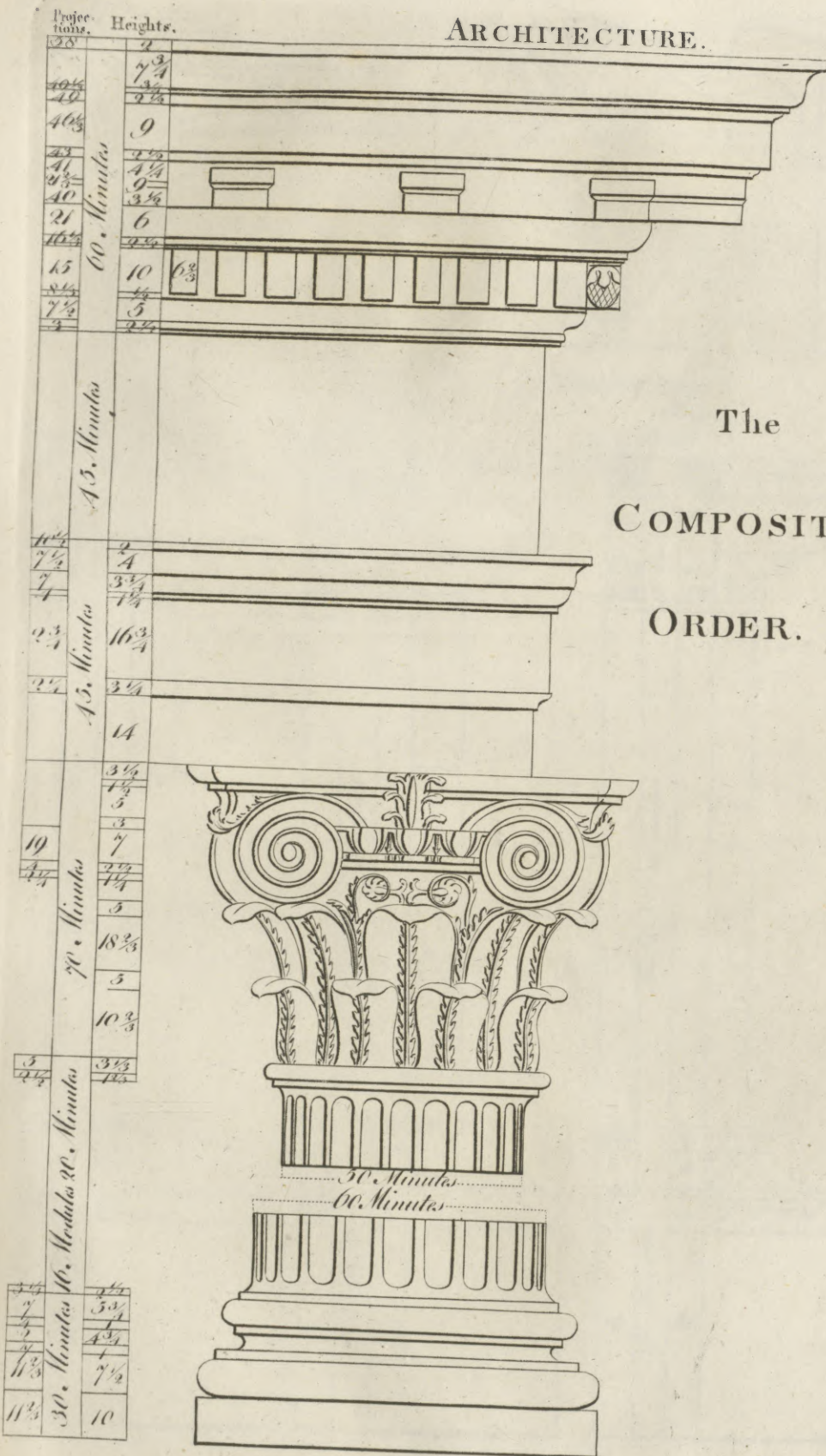




ARCHITECTURE.

Plate XLIV.

The  
COMPOSITE  
ORDER.

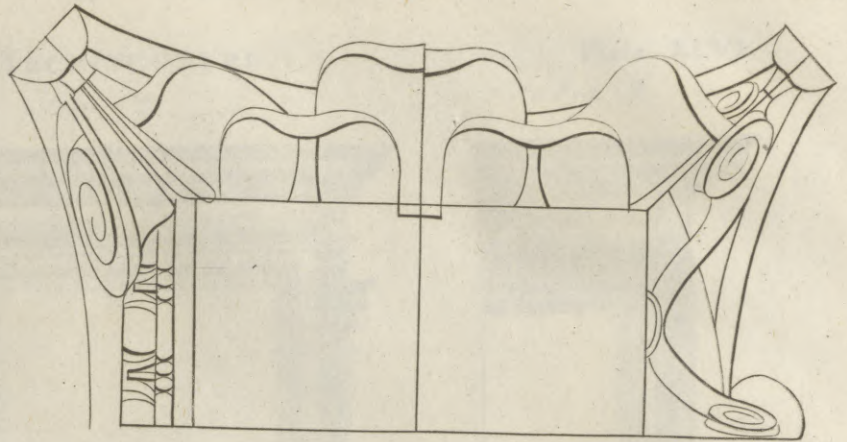
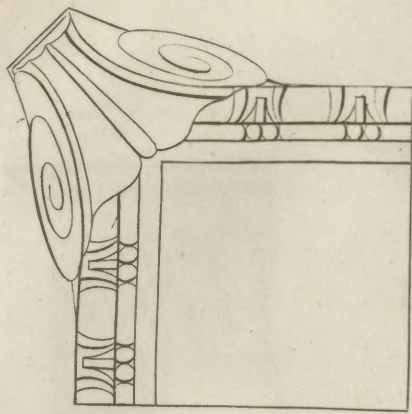


A. Bell Pin. M. de P. del. sculp. fecit.

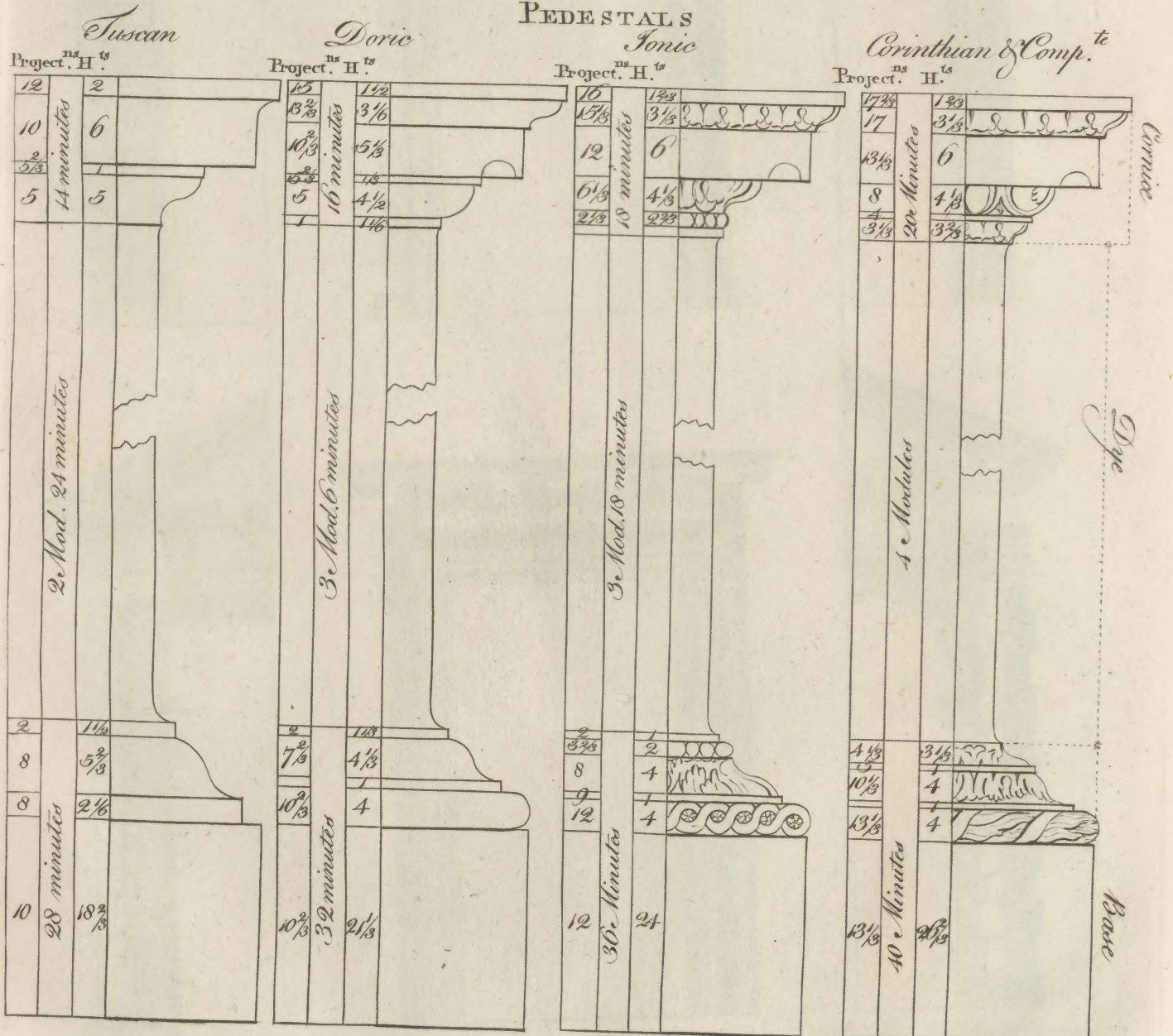








PEDESTALS



A. Bell Sculp.





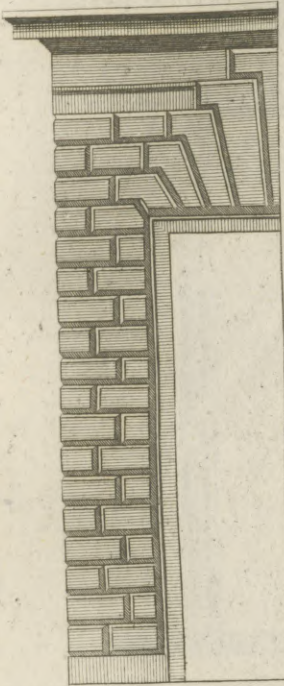
Figures 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



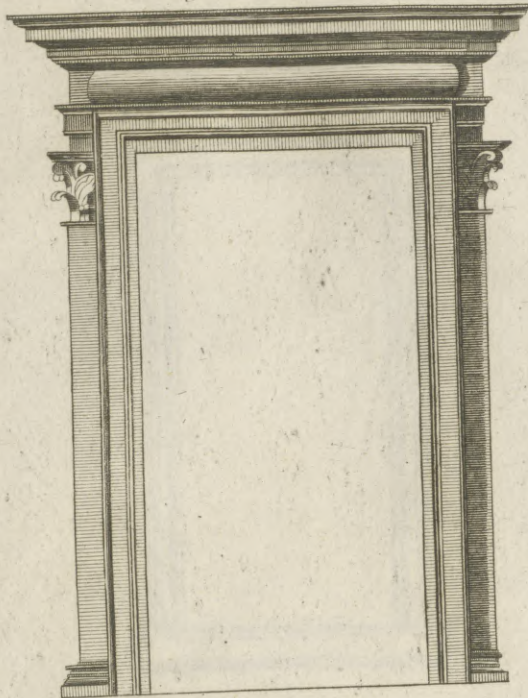


ARCHITECTURE.

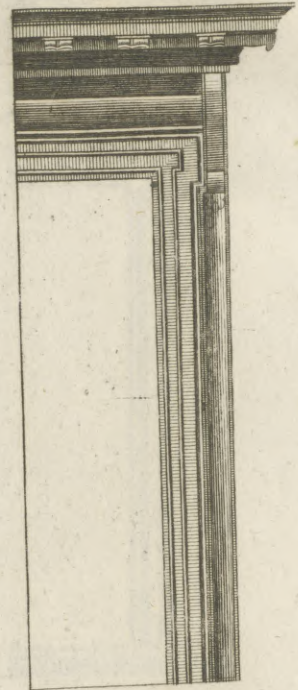
*Fig. 1.*



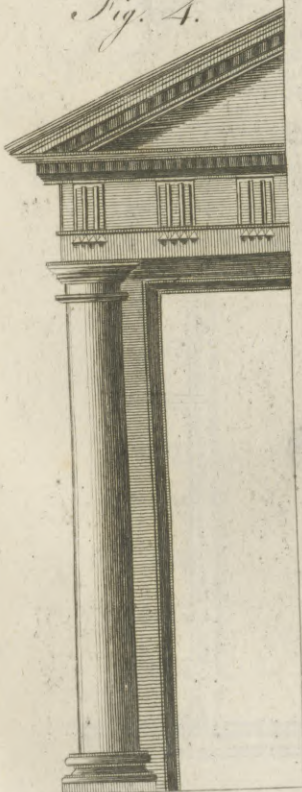
*Fig. 2.*



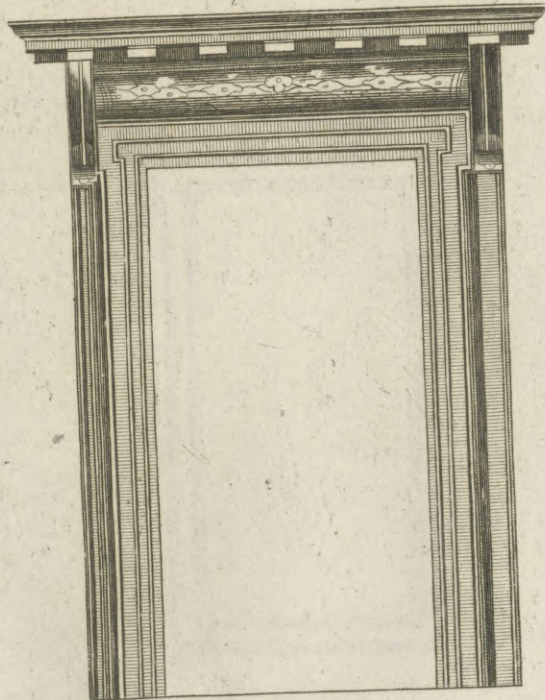
*Fig. 3.*



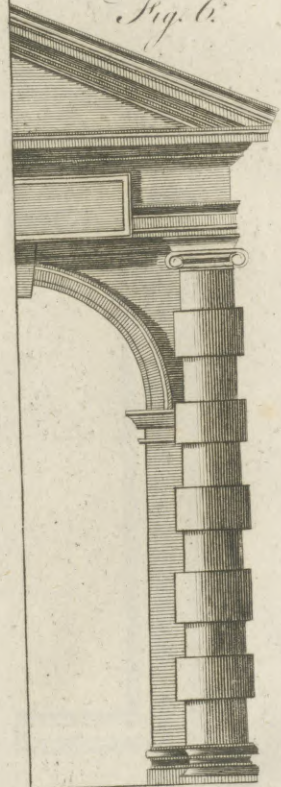
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*

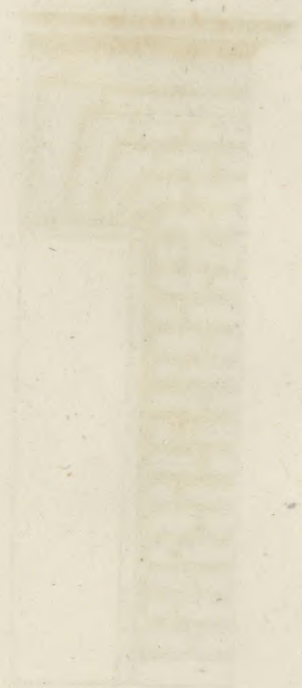


*A. Bull. Pin. Wal. Sculptor fecit*



PLATE 21

PLATE 21

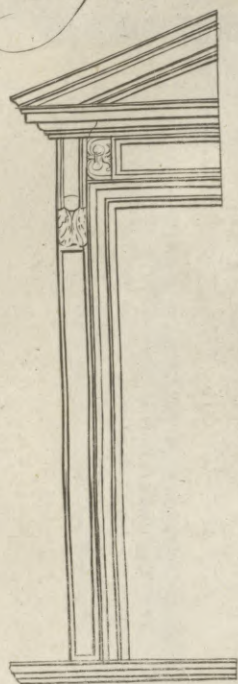




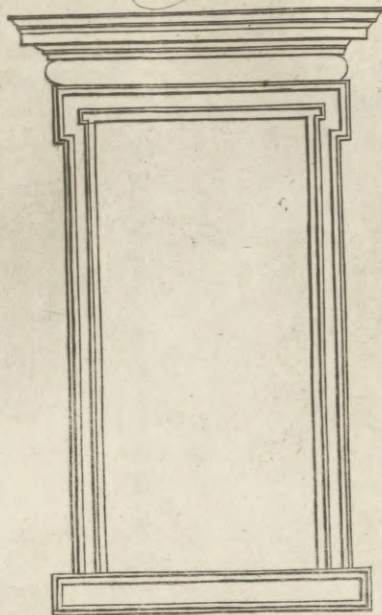
ARCHITECTURE.

Plate XLVII.

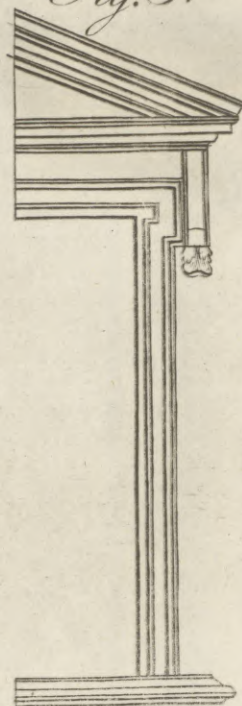
*Fig. 1.*



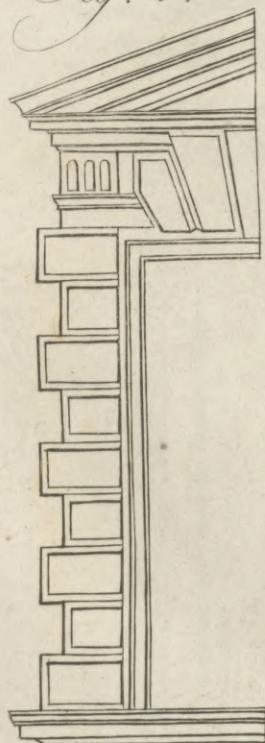
*Fig. 2.*



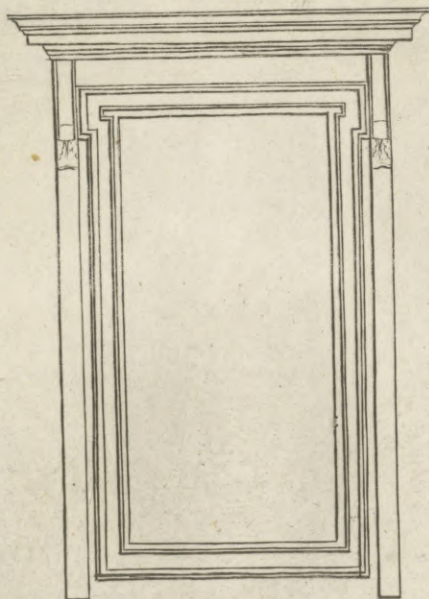
*Fig. 3.*



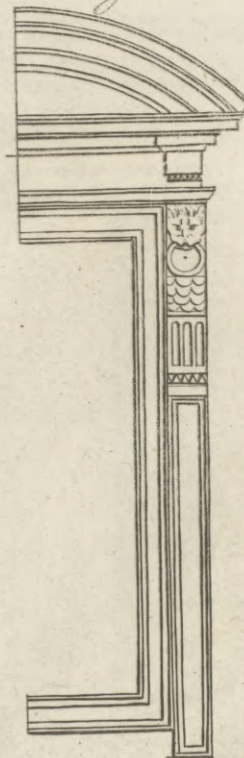
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



*A Bell sculp<sup>t</sup>.*





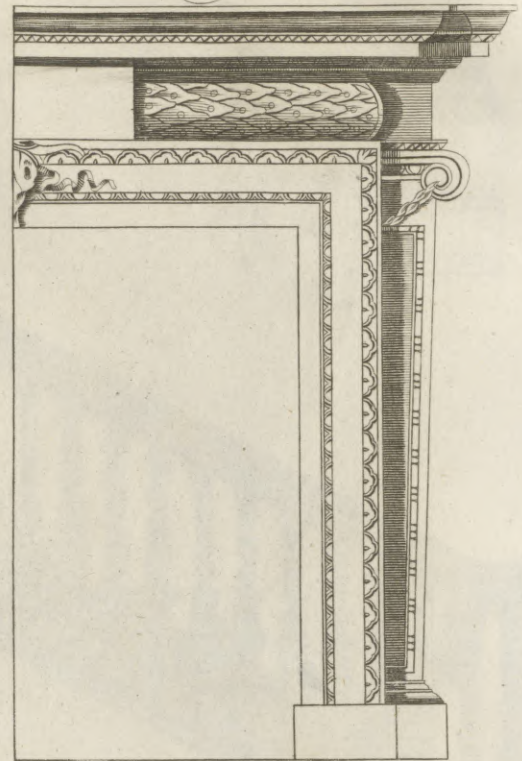
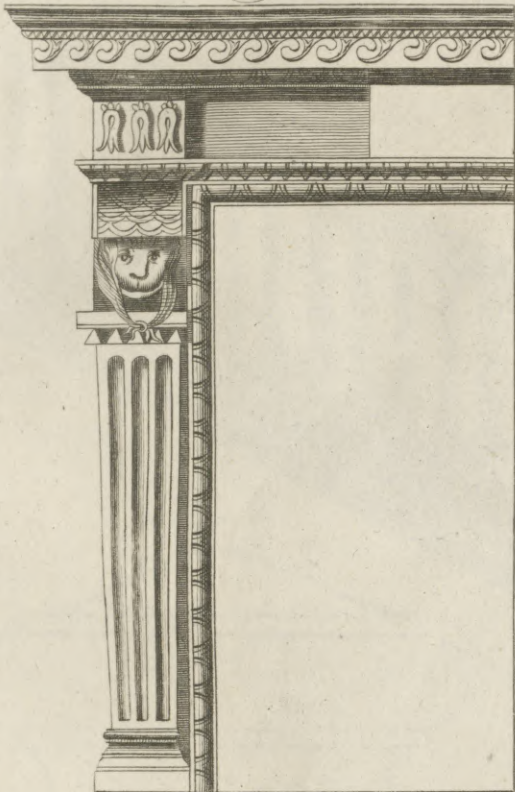


*Fig. 1.*

ARCHITECTURE.

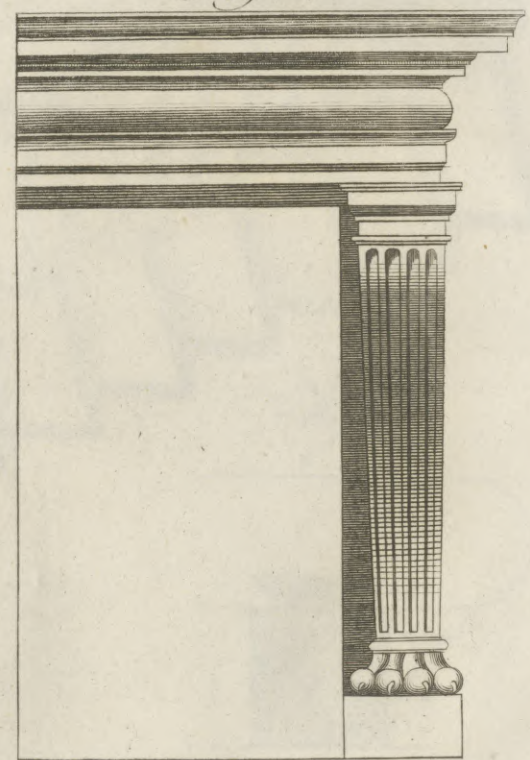
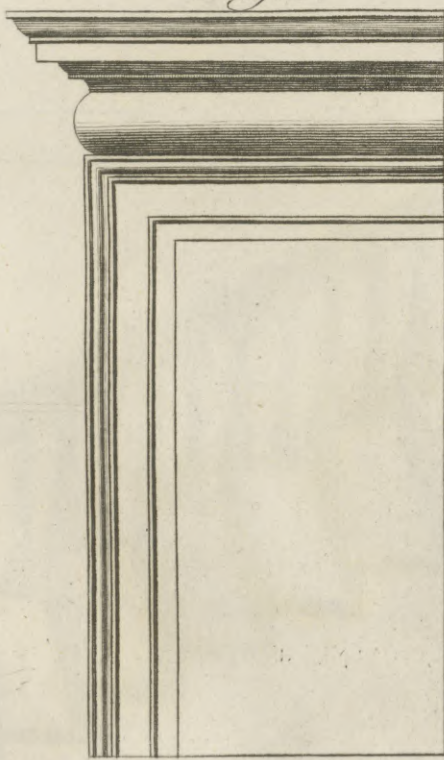
Plate XLVIII.

*Fig. 2.*



*Fig. 3.*

*Fig. 4.*

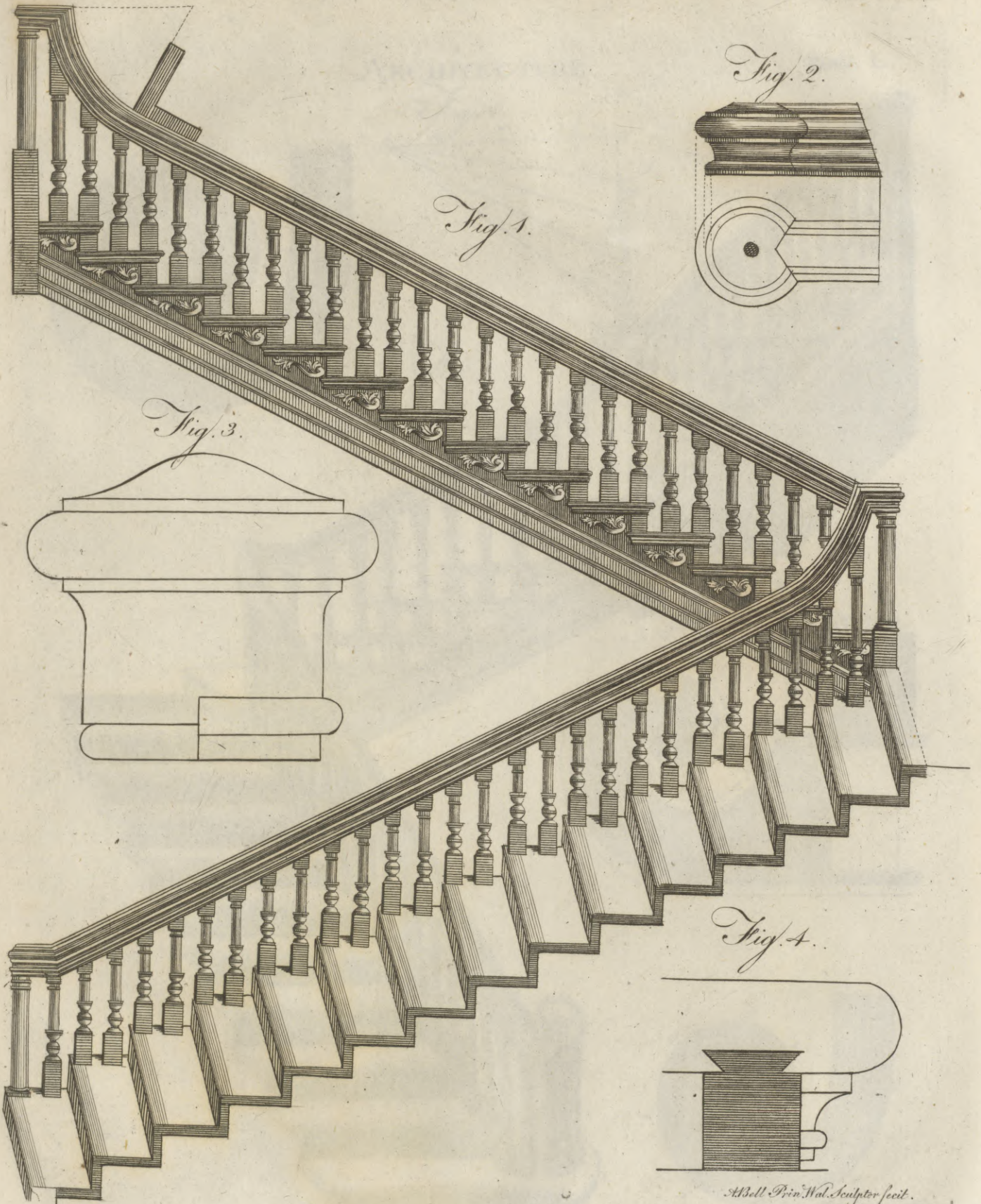


*A. Bell Pin. Mal. Sculptor. fecit.*









*Fig. 1.*

*Fig. 2.*

*Fig. 3.*

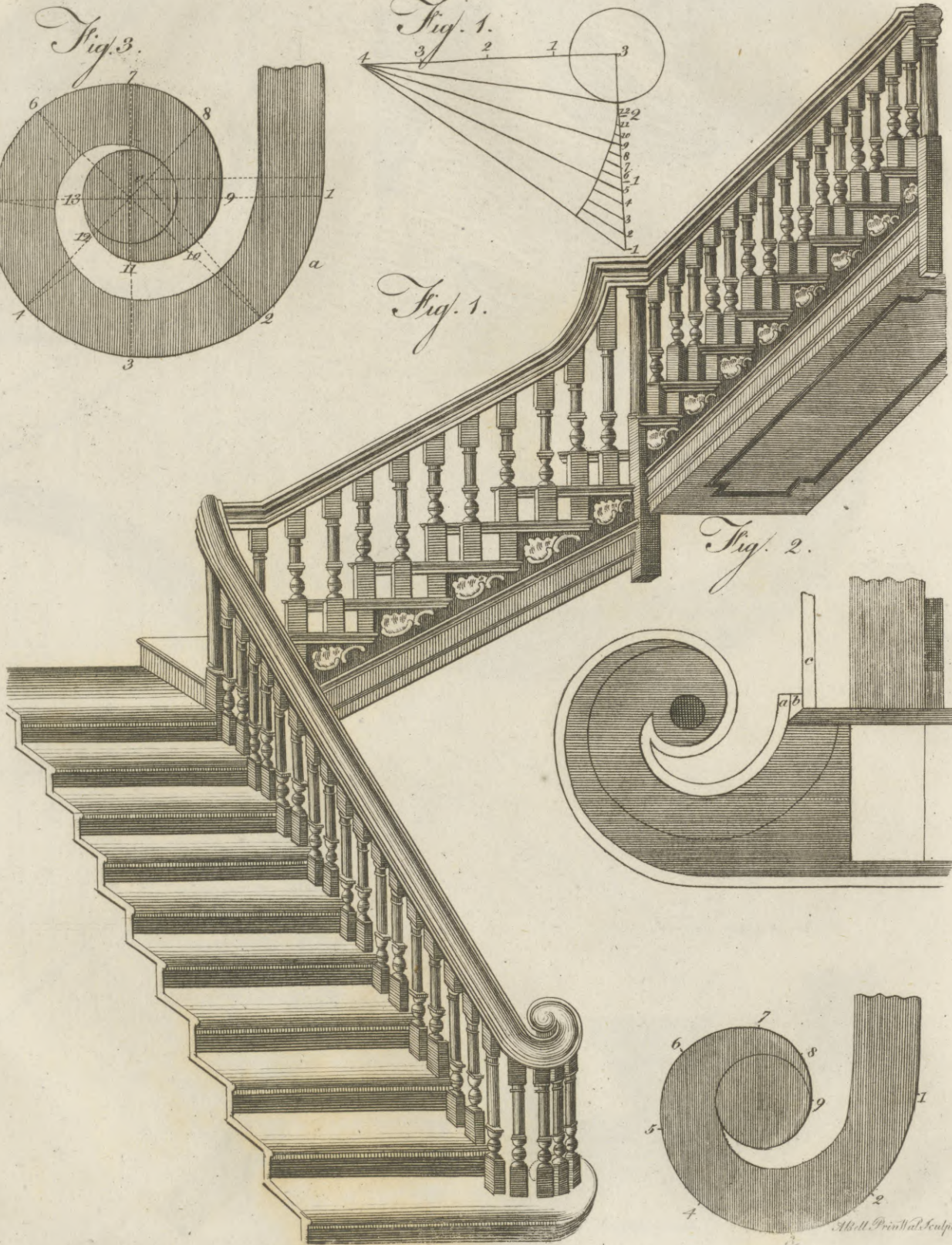
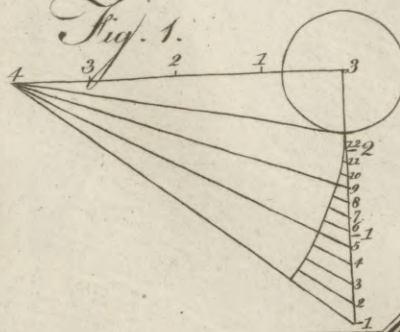
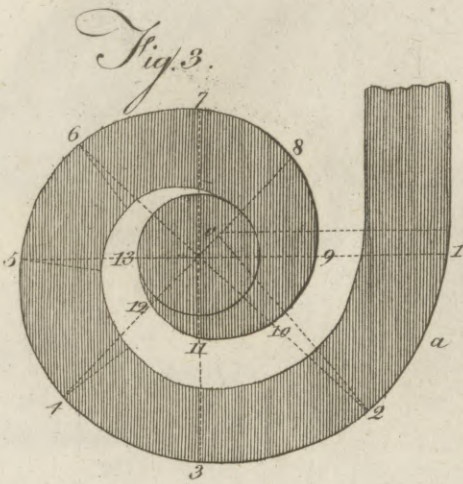
*Fig. 4.*

*At Bell Prin. Wal. Sculptor fecit.*









*Fig. 2.*

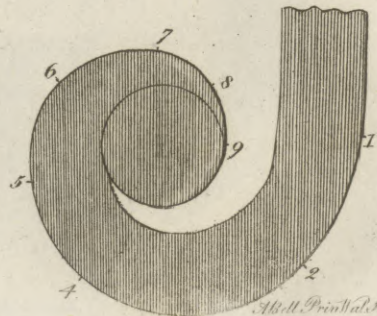
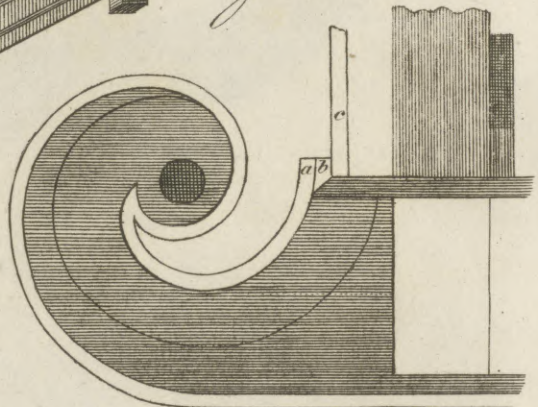


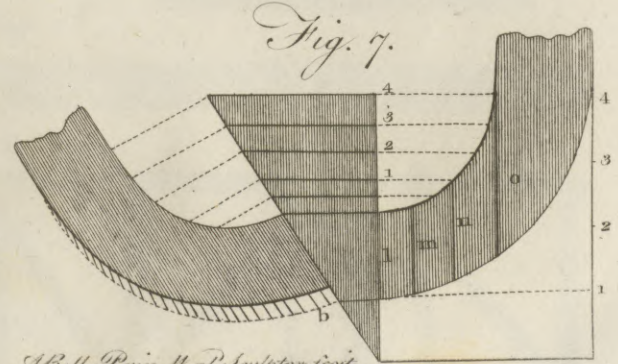
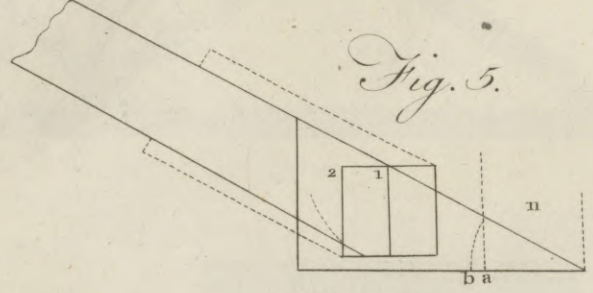
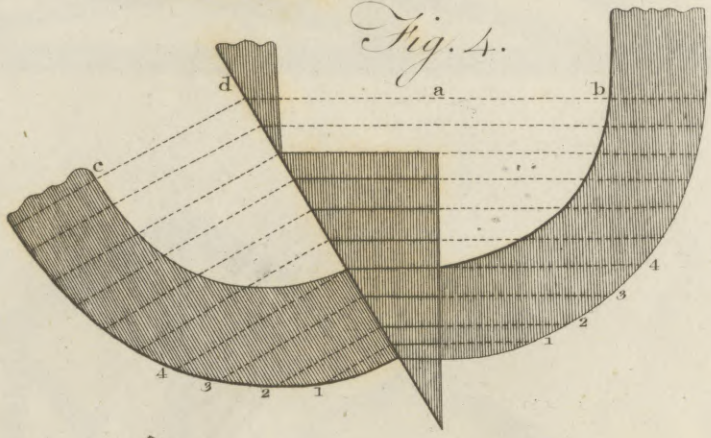
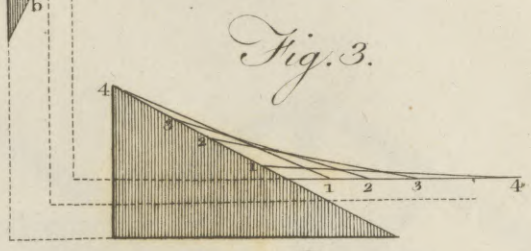
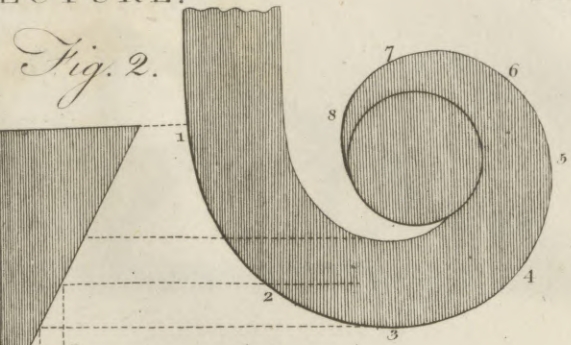
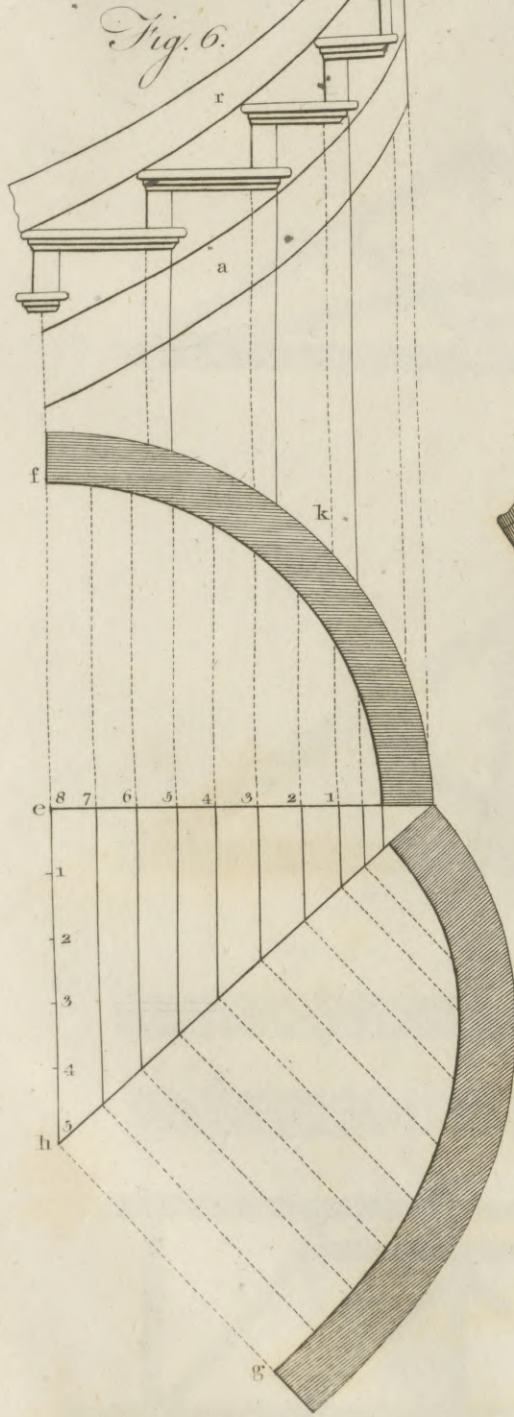
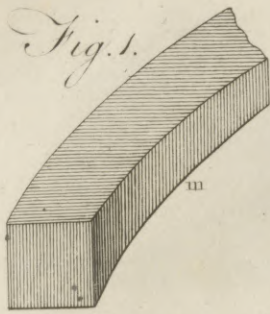


PLATE I

ARCHITECTURE





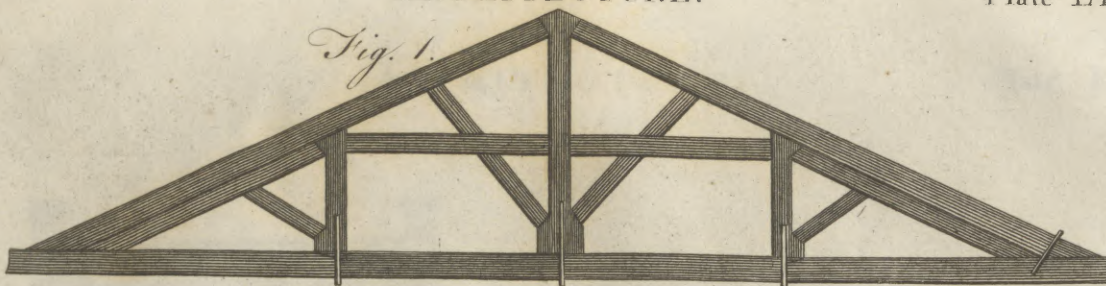








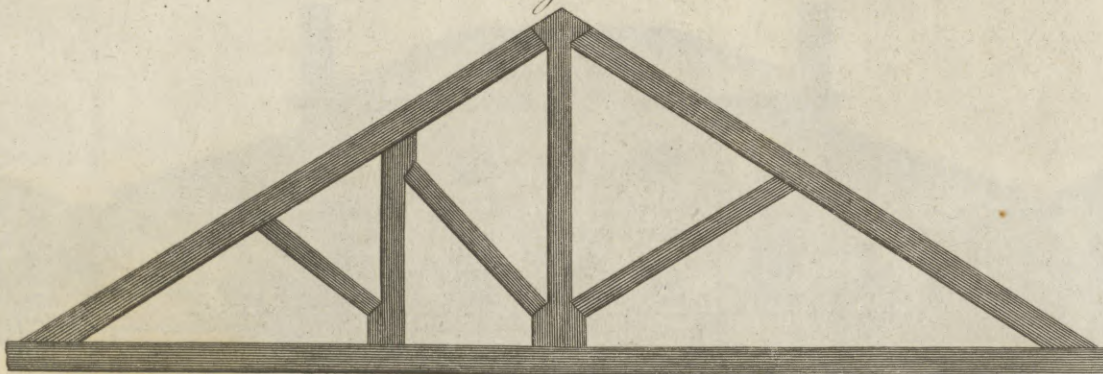
*Fig. 1.*



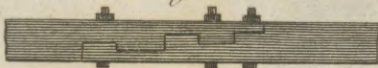
*Fig. 2.*



*Fig. 3.*



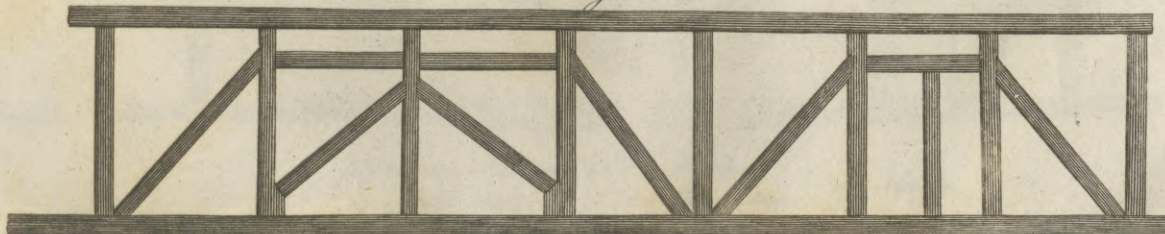
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*

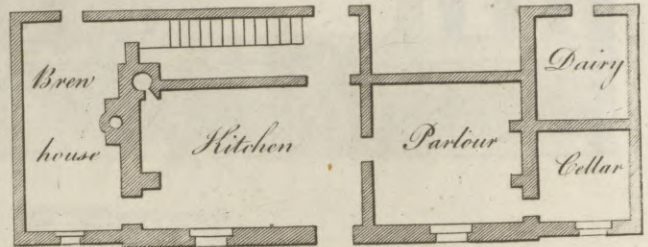
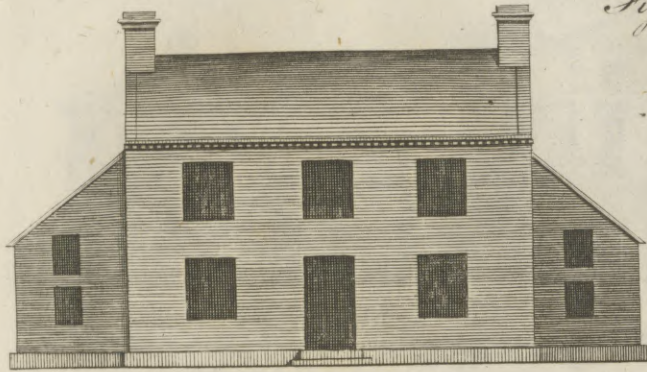




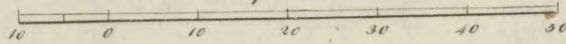




*Fig. 1.*



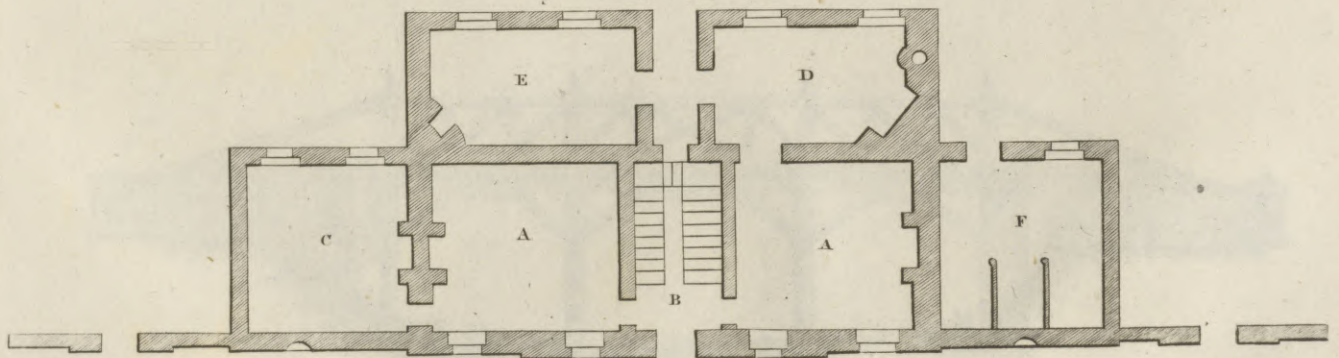
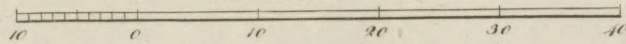
*Scale of Feet.*



*Fig. 2.*



*Feet.*



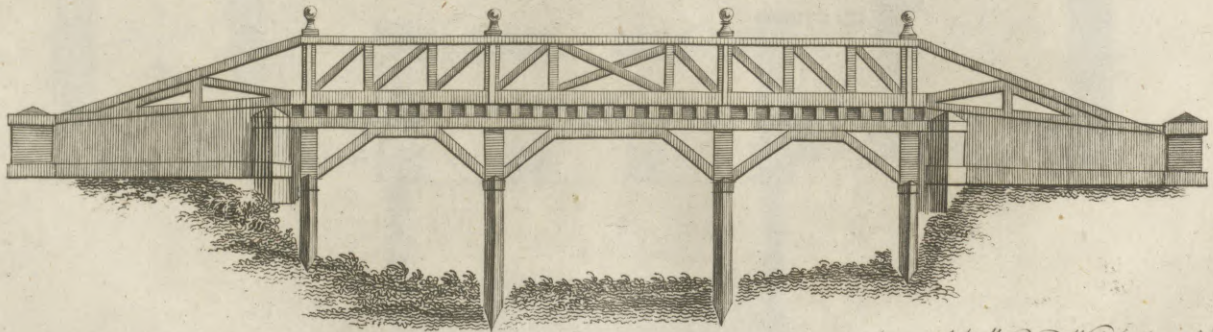
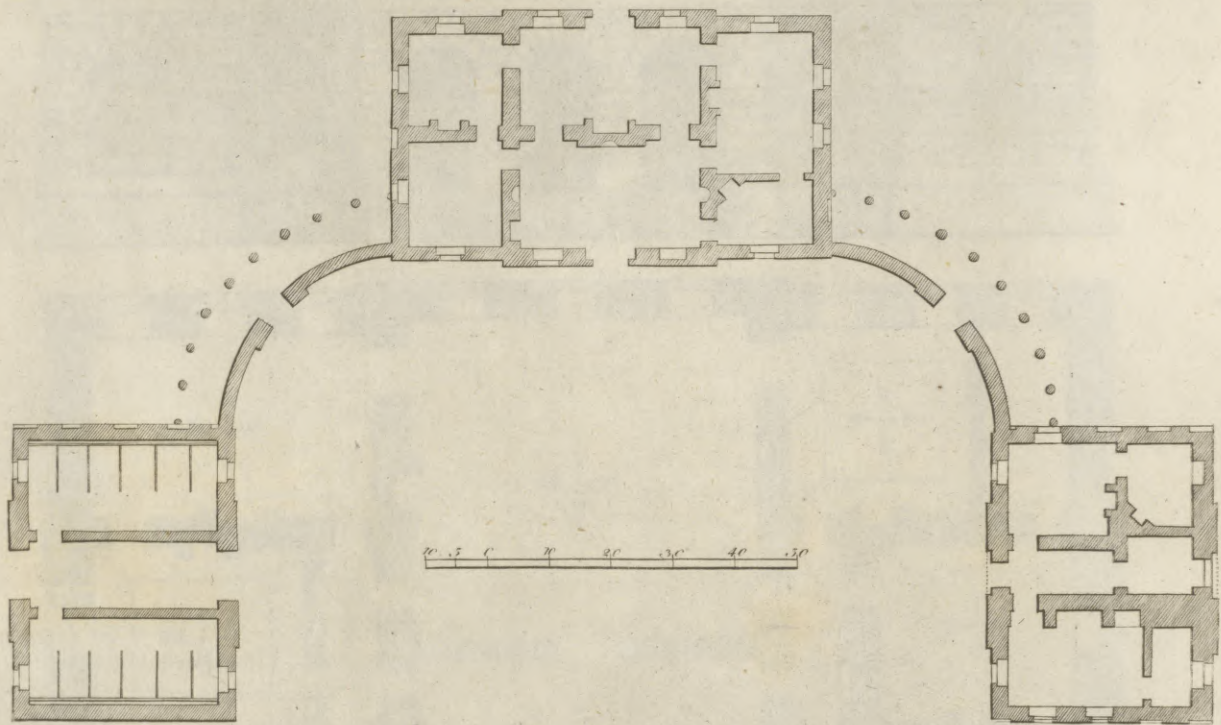
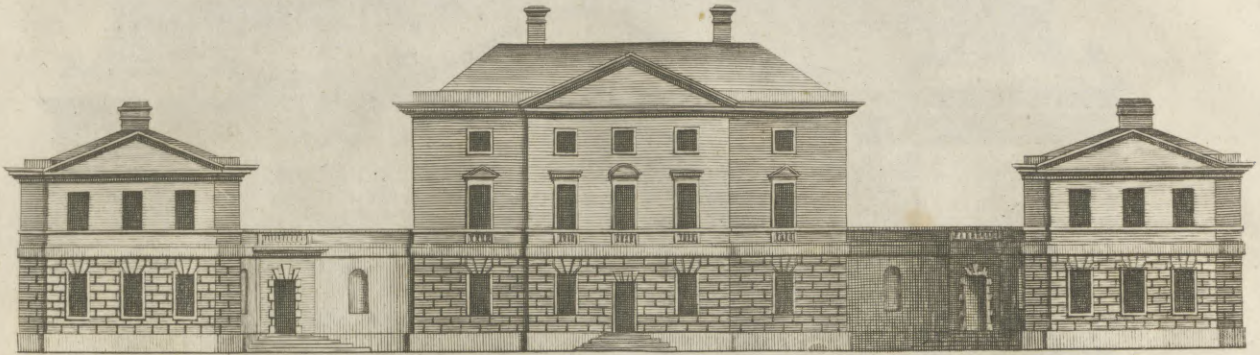
AA are two Parlours 15  
B Stair Case  
C Study  
D Kitchen  
E Wash house  
F Stable  
are Shades

*A. Bull. Prop. Nat. Sculptor fecit.*







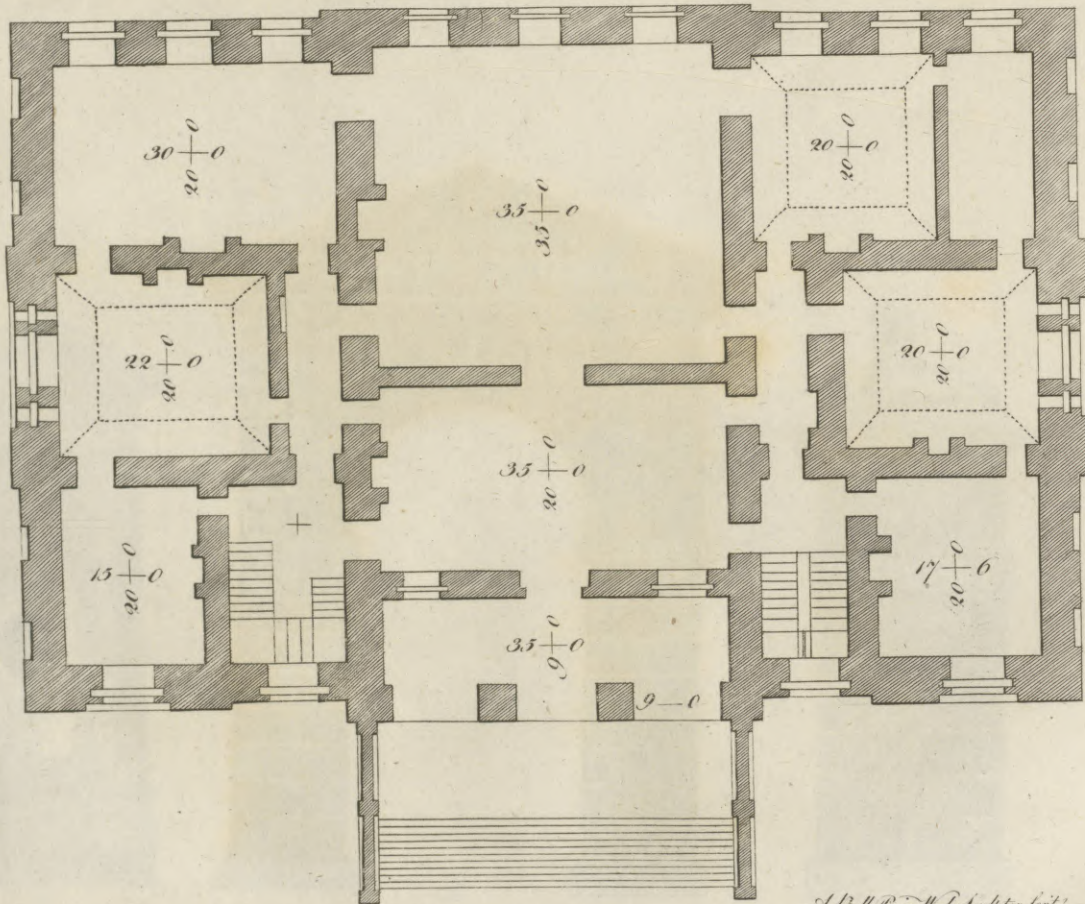
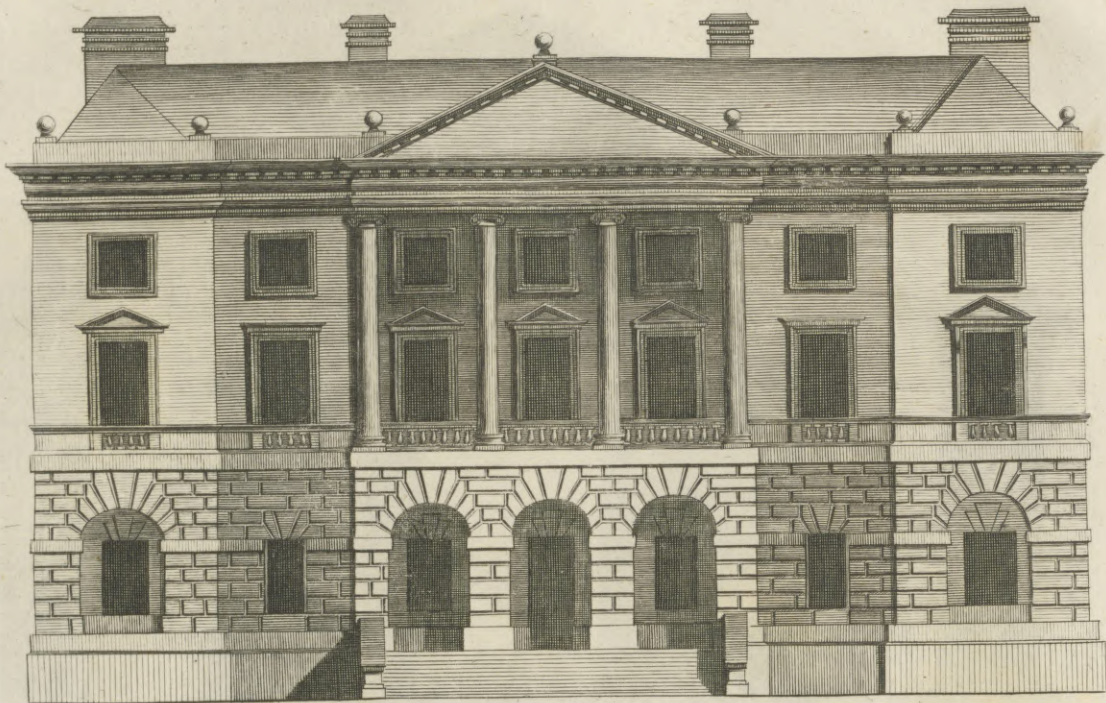


*A. Bell. Pin. Wals. Sculptor fecit*







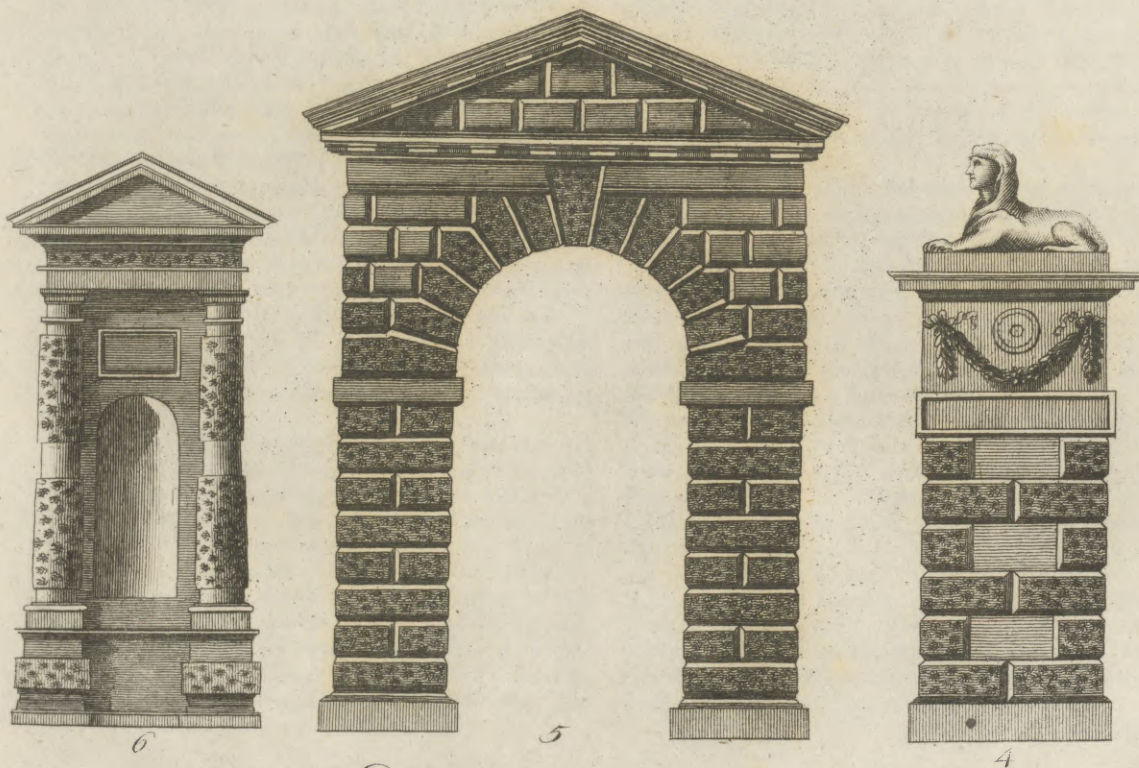


*A. Belli Pin. N. de Sculptor fecit.*









*Designs for Gates & Piers.*

*Abell Pin. Wat. Sculptor fecit.*







Archive  
||  
Archons.

ARCHIVE, or ARCHIVES, a chamber or apartment wherein the records, charters, and other papers and evidences, of a state, house, or community, are preserved, to be consulted occasionally.

We say, the *archives* of a college, of a monastery, &c. The archives of ancient Rome were in the temple of Saturn; the archives of the court of chancery are in the rolls office.

ARCHIVIST, ARCHIVISTA, a keeper of an archive.

Under the emperors, the archivist was an officer of great dignity, held equal to the proconsuls, vested with the quality of a count, styled *clarissimus*, and exempted from all public offices and taxes. Among the ancient Greeks and Persians, the trust was committed to none but men of the first rank; among the Franks, the clergy being the only men of letters, kept the office among themselves. Since the erection of the electoral college, the archbishop of Mentz has had the direction of the archives of the empire.

ARCHMARSHAL, the grand marshal of the empire, a dignity belonging to the elector of Saxony.

ARCHONS, in *Grecian Antiquity*, were magistrates appointed after the death of Codrus\*. They were chosen from the most illustrious families till the time of Aristides, who got a law passed, by which it was enacted, that, in electing these magistrates, less regard should be paid to birth than to merit.

The tribunal of the archons was composed of nine officers. The first was properly the *archon*; by whose name the year of his administration was distinguished. The title of the second was *king*; that of the third, *polemarchus*: to these were added six *thesmothetæ*. These magistrates, elected by the scrutiny of beans, were obliged to prove, before their respective tribes, that they had sprung, both in their father's and their mother's side, for three descents, from citizens of Athens. They were likewise to prove that they were attached to the worship of Apollo, the tutelary god of their country; that they had in their house an altar consecrated to Apollo; and that they had been respectfully obedient to their parents; an important and sacred part of their character, which promised that they would be faithful servants to their country. They were likewise to prove, that they had served in a military capacity the number of years which the republic required of every citizen: and this qualification gave the state experienced officers; for they were not allowed to quit the army till they were 40 years old. Their fortune too, of which they were to inform those before whom they were examined, was a warrant for their fidelity.

After the commissioners, who were appointed to inquire into their character and other requisites, had made a report of them, they were then to swear that they would maintain the laws; which obligation if they neglected, they engaged to send to Delphi a statue of the weight of their bodies. According to a law of Solon, if an archon got drunk, he was condemned to pay a heavy fine, and sometimes even punished with death. Such magistrates as the Athenian archons were well entitled to respect. Hence it was eternal infamy to insult them; and hence Demosthenes observed, that

VOL. II. Part II.

to treat the *thesmothetæ* with disrespect, was to show disrespect to the republic.

Another qualification indispensably required of the second officer of this tribunal, who was called the *king*, was that he had married the daughter of an Athenian citizen, and that he had espoused her a virgin. This was exacted of him, says Demosthenes, because part of his duty was to sacrifice to the gods jointly with his wife, who instead of appeasing, would have irritated them, if he had not possessed both these honours.

The inquiry into the private title of the nine archons was very severe; and this attention was the more necessary, as they had a right to take a seat in the Areopagus, after they had quitted their office, and given an account of their administration.

When any obscurity occurred in the laws relative to religion and the worship of the gods, the interpretation was submitted to the tribunal of the archons.

Aristotle observes, that Solon, whose aim was to make his people happy, and who found their government in his time aristocratical, by the election of the nine archons, who were annual magistrates, tempered their power, by establishing the privilege of appealing from them to the people, called by lot to give their suffrage, after having taken the oath of the *Heliastæ*, in a place near the Panathenæum, where Hippias had formerly calmed a sedition of the people, and bound them to peace by an oath.

The archons were the principal officers, not only in civil, but likewise in sacred matters, and especially in the mysteries of Bacchus. The archons, however, who were surnamed *eponymi*, were chiefly employed in civil affairs; yet they presided at the great feasts, and held the first rank there. Hence they are sometimes styled *priests*.

ARCHON is also applied by some authors to divers officers, both civil and religious, under the eastern or Greek empire. Thus bishops are sometimes called *archontes*; and the same may be said of the lords of the emperor's court. We also read of the *archons of the antimensia*, *archon of archons*, *grand archon*, *archon of churches*, *archon of the gospel*, *archon of the walls*, &c.

ARCHONTICI, in *Church History*, a branch of Valentinians, who maintained that the world was not created by God, but by angels called *Archontes*.

ARCHPRIEST, ARCHPRESBYTER, a priest or presbyter established in some dioceses, with a pre-eminence over the rest. Anciently the archpriest was the first person after the bishop: he was seated in the church next after the bishop; and even acted as his vicar, in his absence, as to all spiritual concerns. In the sixth century, there were found several archpriests in the same diocese; from which time some will have them to have been called *deans*. In the ninth century, they distinguished two kinds of cures or parishes: the smaller governed by simple priests; and the baptismal churches by archpriests; who, besides the immediate concern of the cure, had the inspection of the other inferior priests, and gave an account of them to the bishop, who governed the chief or cathedral church, in person. There are archpresbyteries still subsisting in the Greek church; vested with most of the functions and privileges of chorepiscopi or rural deans.

4 F ARCHTREASURER,

Archon

||

Archpriest.

\* See the article *Attica*.



Archtreasur-  
 furer  
 ||  
 Archytas.

**ARCHTREASURER**, the great treasurer of the German empire. This office was created with the eighth electorate, in favour of the elector Palatine, who had lost his former electorate, which was given to the duke of Bavaria, by the emperor Ferdinand II. who took it away from Frederic V. elector Palatine, after the battle of Prague, where he was defeated in maintaining his election to the crown of Bohemia. The dignity of archtreasurer was contested between the elector of Brunswiek, who claimed it in virtue of his descent from the elector Frederic, and the elector Palatine.

**ARCHILUTE**, **ARCILEUTO**, a long, and large late, having its bass strings lengthened after the manner of the theorbo, and each row doubled, either with a little octave or an unison. It is used by the Italians for playing a thorough bass.

**ARCHYTAS** of Tarentum, was a Pythagorean philosopher, and also well skilled in mathematics and geography. He lived in the time of Plato, and according to report, interposed his influence with Dionysius the tyrant, in order to save the life of that renowned philosopher. According to this date, it would appear that Jamblichus is mistaken when he asserts, that he was a hearer of Pythagoras; and the testimony of a writer mentioned by Photius, would seem more worthy of credit, that he was the eighth successive preceptor of the Pythagorean school. But his fame was not confined to the circle of literature; for so eminent were his military talents, that, in opposition to an express law of his country, that no man should be chosen more than once the general of its armies, he was elevated to that important station no less than seven times. He adopted the sentiments of Pythagoras in his dissertations on speculative philosophy. He taught in morality, that there is nothing so destructive to man as pleasure; that in every condition of society, virtue is to be pursued for its own merit, and that every extreme is incompatible with virtue. Aristotle was indebted to Archytas for his general heads of arrangement, entitled his "Ten Categories," and very probably for that principal idea in his Ethics, that virtue consists in avoiding excesses. By discovering the duplication of the cube by means of the conic sections; and the method of finding two mean proportionals between two given lines, he displayed his great knowledge in mathematics. He is reported to have invented several curious hydraulic machines, and to have made a kind of winged automaton; and his genius is likewise honoured with the invention of the screw and crane. In a beautiful ode, Horace records his sad fate, in being cast upon the Apulian shore, an unburied corpse; and mentions him as an excellent astronomer and geographer.

*Te maris et terræ numeroque carentis arenæ  
 Mensorem cohibent, Archyta,  
 Pulveres exigui prope litus parva Marinum  
 Munera: nec quidquam tibi prodest  
 Aerias tentasse domos, animoque rotundum  
 Percurrisse polum, moriuro.*

Archytas, what avails thy nice survey  
 Of ocean's countless sands, of earth, and sea?  
 In vain thy mighty spirit once could soar  
 To orbs celestial, and their course explore.

If here, upon the tempest-beaten strand,  
 You lie confin'd, till some more lib'ral hand  
 Shall strew the pious dust in funeral rite,  
 And wing thee to the boundless realms of light.

FRANCIS.

Arcis-sur-  
 Aube  
 ||  
 Arctoris.

A singular modesty, and a firm command of his passions, were the leading features in his moral character. In his anger he never chastised any of his servants. He said one day to a certain dependant who had disobliged him, "What should I have done to you if I had not been angry?" He maintained a uniform decency not often observed in ancient writings.

A small treatise, entitled *Περί τῆς Παντός Φύσεως*, "On the Universe," and some other small fragments, "On Wisdom," and "On the Good and Happy Man," are the only pieces ascribed to this philosopher that are still extant.

**ARCIS-SUR-AUBE**, a small town of France, in Champagne, now the department of Aube, seated on the river Aube. E. Long. 4. 15. N. Lat. 48. 40.

**ARCO**, a strong town and castle in the Trentin, belonging to the house of Austria. It was taken by the French in 1703, and abandoned soon after. It stands on the river Sarca, near the north extremity of the lake Garda. E. Long. 9. 55. N. Lat. 45. 52.

**ARCONA**, a strong town situated on the island of Rugen in the Baltic. It stood on a high promontory, with the east, north, and south sides defended by steep and lofty precipices, and the west by a wall 50 feet high, proportionably thick, and secured by a deep and broad ditch. It was, however, taken and ruined, in 1168, by Valdemar king of Denmark. One of the conditions imposed by the conqueror was, that the inhabitants should destroy a temple they had erected to St Vitus, and deliver up the vast treasure belonging to this tutelary saint. Another was, that they should pay 40 silver yokes for oxen, by way of tribute, and enter as soldiers in the Danish service when called upon.

**ARCOS**, a strong city of Andalusia, in Spain, seated on a high craggy rock, at the bottom of which runs the Guadeleto. Its strength lies not only in its situation, but in the works erected for its defence, and it is inaccessible on every side but one. The governor resides in an old castle, from whence there is a delightful prospect, which extends very far into the neighbouring country. W. Long. 2. 10. N. Lat. 36. 40.

**ARCTIC**, in *Astronomy*, an epithet given to the north pole, or the pole raised above our horizon. It is called the *arctic pole*, on occasion of the constellation of the little bear, in Greek called *αρκτος*; the last star in the tail whereof nearly points out the north pole.

*Arctic Circle* is a lesser circle of the sphere, parallel to the equator, and 23° 30' distant from the north pole; from whence its name. This, and its opposite, the *antarctic*, are called the two *polar circles*; and may be conceived to be described by the motion of the poles of the ecliptic, round the poles of the equator, or of the world.

**ARCTIUM**, **BURDOCK**. See *BOTANY Index*.

**ARTOPHYLAX**, (from *αρκτος*, bear, and *φυλαξ*, guard), in *Astronomy*, a constellation, otherwise called *Bootes*.

**ARCTOPUS**. See *BOTANY Index*.

**ARCTOTIS**. See *BOTANY Index*.

**ARCTURUS**,



Arcturus  
||  
Ardebil.

**ARCTURUS**, in *Astronomy*, a fixed star, of the first magnitude, in the constellation Arctophylax, or Bootes. The word is formed of *αρκτος*, bear, and *ουρα*, tail, q. d. *bear's tail*, as being very near it. This star was known to the ancients, as in the following verse of Virgil:

*Arcturum, pluviasque Hyades, geminasque Triones.*

See also Job ix. 9. xxxviii 32.

**ARCUATION**, in *Gardening*, the method of raising trees by layers, which is done in the following manner:

Strong mother plants or stools must be planted in a clear border, and in a straight line, about six feet asunder. When these have shot five or six main branches from the roots, and as many collateral branches, the former must be bent to the ground, and there fastened. The small branches must be covered three inches deep upon the joints, and have a large basin of earth made round them to hold the water.

About the middle of September they may be opened, and if they have taken root, may be immediately removed into the nursery; but if they have not sufficiently extended their roots, they must be suffered to remain till the spring, and then transplanted.

**ARCUCCIO**, **ARCUTIO**, a machine made of a board, covered with pieces of hoops, like the tilt of a waggon; used in Italy to prevent children from being overlaid and smothered by nurses or others. Every nurse in Florence is obliged to lay her child in an arcutio, under pain of excommunication.

**ARDAMON**, or **ARDAMA**, in *Antiquity*, a vessel of water placed at the door of a person deceased, till the time of burial, as a token that the family was in mourning, and to serve to sprinkle and purify persons as they came out of the house.

**ARDASSES**, in *Commerce*, the coarsest of all the silks of Persia; and as it were the refuse of each kind. In this sense, they say, the *legis*, the *houfets*, the *choufs*, and the *payas ardasses*, to signify the worst of those four sorts of Persian silks.

**ARDASSINES**, in *Commerce*, called in France *ablaques*; a very fine sort of Persian silks, little inferior in fineness to the *sourbassis*, or rather *cherbassis*, and yet it is little used in the silk manufactures of Lyons and Tours, because that kind of silk will not bear hot water in the winding.

**ARDEA**, the crane. See *ORNITHOLOGY Index*.

**ARDEA**, in *Ancient Geography*, a town of Latium, the royal residence of Turnus king of the Rutuli, (Livy); so called, either from the augury of the heron, (Hyginus); or from the excessive heat of the country, (Martial). It was in a marshy, sickly situation, (Strabo, Seneca). It was built by Danaë, the mother of Perseus, (Virgil); above five miles distant from the sea, and 20 from Rome: now a hamlet. It was a Roman colony, (Livy); the inhabitants called *Ardeates*. E. Long. 17. 49. N. Lat. 41. 30.

**ARDEBIL**, or **ARDEVIL**, a town of Persia in the province of Aderbijan. It was taken and burnt by Jeughiz Khan in 1222, when most of the inhabitants were destroyed: but it has been since rebuilt; and is still ranked for dignity among the best cities of the kingdom, on account of its having been the residence and burying-place of some of the Persian kings; par-

ticularly the sepulchre of Sheik Sefi is at this place, to which the people resort in pilgrimage. He founded a place, which they call his kitchen, with a revenue sufficient to maintain 1000 poor people, and to feed them three times a-day. Three or four of the largest principal streets have shops, and are planted on each side with elms and linden trees, to keep off the excessive heat of the sun; but the houses are poorly built, with bricks dried in the sun: yet most of them, that are not in the bazars or market places, have the pleasure and conveniency of a garden full of trees bearing fruit; and there are large spots in the out parts of the town, where the houses are at a distance from each other, and the spaces between planted with trees, which render the city of a large extent. The meidan, or great square, is 300 paces long, and 150 broad, having shops all round; which, when this place was in a flourishing condition, were stored with all manner of valuable commodities.

Through the city there pass two branches of a rivulet, which are sometimes enlarged by the melting of the snow on the mountains, so that they have been forced to make canals to divert the stream. In the reign of Shah Abbas, it broke down the dikes, and carried away a great number of houses. The city is without walls, and is seated in the midst of a large plain encompassed with mountains, the highest of which lies westward, and is always covered with snow. These render the air sometimes extremely hot, and at others intolerably cold, which occasions epidemical distempers, that carry off great numbers of people. The soil produces no fruit near the city but apples, pears, and peaches; and yet is good both for corn and pasture. The sheep are so numerous, that 100,000 have passed over the city bridge in a day. There are here several sorts of mineral waters, which serve both for common bathing, and for the cure of various diseases; one of these is a sulphureous spring, whose exhalations render the circumambient air extremely disagreeable. There are three springs which produce water as hot as if it was boiling; and from which, waters are conveyed to the public baths in the city. About half a league from the city, on the right hand of the public road, there is a pool of standing water, which is covered all over with salt like ice. E. Long. 47. 30. N. Lat. 37. 55.

**ARDECHE**, a department of France, which derives its name from a river, and comprehends part of Dauphiny

**ARDEN**, the common name of forests among the Celtæ, from the widely extensive one which ranged for 500 miles across the country of Gaul, or that which covered more than half the county of Warwick in Britain, and the sites of which still retain the appellation of *Arden*, to the much smaller one of the ancient Manchenion, that covered and surrounded the site of the present Manchester. It is written *Arduen* by Cæsar and Tacitus in speaking of the forest in Gaul, and *Arduen* by Ossian in mentioning the woods of Caledonia. It cannot (says Mr Whitaker) be compounded of *ar* the prepositive article in Celtic, and the substantive *den*, as Baxter and Camden assert it to be; but is formed of *ard* an adjective, and *ven* the same as *den*. The meaning of the name therefore is not, as Mr Baxter renders it, simply *the hills*, or even, as the ingenious translator

Ardebil  
||  
Arden.



Arden-  
burg  
||  
Ardrah.

of Oſſian interprets it, the *high hill*. *Ard* ſignifies either *high* or *great*, and *ven* or *den* either a *hill* or *wood*. *Arduen*, *Arduen*, or *Arden*, then, means a conſiderable wood. Hence, only, the name became applicable to ſuch very different ſites, as the *plains* of Warwickſhire and the *hills* of Scotland: and it was given, not only to the moſt extenſive foreſts, to that which was the greateſt in Gaul, or ſo conſiderable in Britain; but to many that were important only within their own contracted diſtricts, as the wood of Man- cenion above mentioned, and others.

ARDENBURG, a town of the Netherlands, in Dutch Flanders, and formerly the moſt conſiderable in that country; but it has been diſmantled by the Dutch. E. Long. 3. 30. N. Lat. 51. 16.

ARDENNE, a foreſt in France, formerly of vaſt extent; but the trees are in many places grubbed up, and where they ſtood are built cities, towns and abbeys. At preſent it extends from Thionville, near the country of Liege, to Donchery and Sedan, on the confines of Champagne. The roads are ſo narrow in ſome places, that two waggons cannot paſs each other; and therefore the waggoners are obliged to provide themſelves with bells or horns to give one another notice to ſtop in time.

ARDENNES, a department of France, which comprehends part of Champagne, and takes its name from the foreſt.

ARDENTES, in middle-age writers, an appellation given to thoſe afflicted with the *ignis ſacer*, or *eryſipelas*. They were thus called, as ſeeming to be ſcorched or burned with the diſeaſe. Hence alſo the abbey of St Genevieve at Paris is called *Domus Ardentium*, by reaſon, as it is ſaid, that great numbers were cured of that diſtemper at the ſhrine of this ſaint, in the reign of Lewis VI.

ARDES, a town of France, in Lower Auvergne, and the principal place of the duchy of Mercœur. It ſerves as a mart for the commodities and trade between Upper and Lower Auvergne. E. Long. 3. 10. N. Lat. 45. 22.

ARDFERT, a town of Ireland, was the ancient capital of Kerry, with an univerſity, which was held in the higheſt eſteem. It is a biſhop's ſee, and borough by ancient preſcription, and has been held in *commendam* with the biſhopric of Limerick ever ſince the Reſtoration. The biſhops were anciently called Biſhops of Kerry. St Brandon, to whom the cathedral is dedicated, had his firſt education in this county, under Biſhop Ert; but he finiſhed his ſtudies in Connaught, St Jarlath biſhop of Tuam being his preceptor. The ruins here are very extenſive. Near the cathedral was an anchorite tower, the loſtief and fineſt in the kingdom, being 120 feet high: it fell ſuddenly in 1771. In the ruined churches there are ſeveral inſcriptions round the mouldings of the tomb ſtones; and over an arch, behind Lord Glandore's houſe, is an inſcription in relief done in a maſterly manner, but the characters unknown.

ARDRAH, a ſmall territory or kingdom of Africa, in Guinea properly ſo called. It lies at the bottom of the gulf of St Thomas, and has a town called *Ardres*, ſuppoſed to be the capital. The inhabitants are very licentious, and have neither temple nor any place for religious worſhip. However they are very courage-

ous; and their king was abſolute till lately that the king of Dahomy made war upon this and the neighbouring territories, brought them under ſubjection, and burnt the rowns, particularly Ardres. The air is very unwholeſome to Europeans: yet the natives live to a great age; but the ſmallpox makes great deſtruction among them. This country is fertile in Indian corn, palm wine, plants, and fruits, which laſt all the year; and they make a great deal of falt.

ARDRES, a town of France, in Lower Picardy, now the department of the Straits of Calais. Here was an interview between Francis I. and Henry VIII. king of England in 1520. It is ſeated in the miſt of a morafs eight miles ſouth of Calais. E. Long. 2. 0. N. Lat. 50. 35.

ARDS, BARONY OF, in the county of Down in Ireland: it is a narrow ſlip of land, in ſome places three and in none above ſix miles broad; but the ſoil is for the moſt part tolerably good. It lies between the lake of Strangford and the ſea, and in the ſouth part it is oppoſite to Lecale. Sir Thomas Smith obtained a patent for this barony from Queen Elizabeth, and ſent his natural ſon with a colony to poſſeſs it; but he was intercepted and ſlain by an Iriſhman. After Sir Thomas's death, Ards was granted by James I. to ſome of the Scots nobility.

ARDUBA, an ancient city of the Pannonians. It was taken by Germanicus about the 7th year of the Chriſtian æra: but its reduction was more owing to the diſagreement that reigned among the inhabitants than to the valour of the Romans. The greater part of the citizens were for ſubmitting; but the women more fond of their ancient laws and liberties than the men, joined ſome Roman deſerters, and falling upon their huſbands, killed a great number of them: but being at laſt overcome by the men, who then ſubmitted to the Romans, the women either threw themſelves headlong from the tops of the walls, or, ſetting fire to their houſes burnt themſelves and their children to death.

AREA, in general, denotes any plain ſurface, whereon we walk, &c. The word is Latin, importing more properly a threshing floor; and is derived from *arere*, "to be dry."

AREA, in *Architecture*, denotes the ſpace or ſite of ground on which an edifice ſtands. It is alſo uſed for inner courts and thoſe portions of ground.

AREA, in *Geometry*, denotes the ſuperficial content of any figure. Thus, if a figure, e. g. a field, be in form of a ſquare, and its ſide be 40 feet long, its area is ſaid to be 1600 ſquare feet; or it contains 1600 little ſquares, each a foot every way.

AREB, a kind of imaginary money uſed in the dominions of the Great Mogul. Four arebs are equal to one crou, or 100 lacs; one lac to 100,000 roupees.

AREBO, or AREBON, a town on the Slave coaſt of Guinea, in Africa, ſeated at the mouth of the river Formoſa. The Engliſh had once a factory there, as the Dutch have ſtill. It is a large oblong place, indifferently well peopled, and furniſhed with houſes built of reeds and leaves. E. Long. 5. 5. N. Lat. 5. 0.

ARECA, the FAUSEL-NUT. See BOTANY Index.

ARELATE, or ARELATUM, is a town of Gallia Narbonenſis, ſituated on the Rhone, denoting a town on, or beyond, a marſh, according to the particular ſituation

Ardres  
||  
Arelate.



**Arenberg** situation of the speaker; called *Arelate Sextanorum*, (Pliny, Mela, Coin), because it had a colony of the sixth legion. Writers of the lower age call it *Arelas*, *-atis*, (Prudentius, Ausonius). There was a double *Arelas*, one on each side of the river, and joined by a bridge, (Ausonius); that on the left side is thought to have been built by Constantine. Tiberius's father was sent by Julius Cæsar at the head of the colony, (Suetonius); and hence the appellation *Julia Paterna*, as appears from an inscription. It was a favourite place of the Romans, and greatly ornamented; and hence called *Gallula Roma*, (Ausonius). It is now called *Arlés*. E. Long. 5. 5. N. Lat. 43. 40.

**AREMBERG**, a small town of Germany, in the circle of Westphalia, defended by a castle. It is the capital of a county of the same name, and was erected into a principality by the emperor Maximilian II. in favour of John de Ligne, lord of Barbazon, who took the name of *Arenberg*. It is seated on the river Aer, E. Long. 7. 3. N. Lat. 50. 27.

**AREMORICA**, or **ARMORICA**, a part of Gaul between the Sequana and Ligeris, (Cæsar, Hirtius); denoting a country on, or beyond the sea, *ar moer*, or *are moer*, Celtic. Pliny indeed says, that *Aquitania* was formerly called *Aremorica*; but in this he stands alone. In the lower age, the term *Armorica* was confined to Bretagne in France.

**ARENA**, in *Roman Antiquity*, a place where the gladiators fought; so called from its being always strewed with sand, to conceal from the view of the people the blood spilt in the combat. Nero is said to have strewed the arena with gold dust.

**ARENARIA**, or **SANDWORT**, See **BOTANY Index**.

**ARENACUM**, or **ARENACUS**, one of the four towns or larger villages in the island of the Batavi, (Tacitus). Now *Arnhem*, in Guelderland. E. Long. 5. 20. N. Lat. 52. 2.

**ARENARII**, in *Antiquity*, gladiators who combated with beasts in the arena or amphitheatre. The *arenarii* were slaves of the lowest rank; so that, though manumitted, they were not capable of being Roman citizens. They were the same with what were otherwise called *Belarii*.

**ARENARIUM**, in *Ecclesiastical Writers*, denotes a cemetery or burying ground. The *arenaria* were properly a kind of pits, or holes, under ground, where in the ancient Christians not only buried their dead, but held their religious assemblies in times of persecution.

**ARENSBERG**, a small town of Germany, in the circle of Westphalia, upon the river Roer. E. Long. 8. 20. N. Lat. 51. 25.

**ARENSBURG**, an episcopal and maritime town of Livonia in Sweden, seated in the isle of Osel, in the Baltic sea. E. Long. 22. 40. N. Lat. 58. 15.

**AREOLA**, among *Anatomists*, the coloured circle surrounding the nipple of the breast.

**AREOPAGUS**, a sovereign tribunal at Athens, famous for the justice and impartiality of its decrees, to which the gods themselves are said to have submitted their differences. It was in the town, on a rock or hill opposite to the citadel. The word signifies strictly, *rock of Mars*.

Plutarch attributes the establishment of the Areo-

pagus to Solon. Other authors think differently: and with good reason; for it appears undeniable, that this tribunal was instituted before Solon. But the best authorities allow him the honour of its restoration. The city of Athens, governed till this time by tribunals of a circumscribed jurisdiction, which were multiplied by the most trifling accidents and circumstances, took no fixed political or civil form, however closely united the members of those tribunals were by their general views towards the public good, and by the common love of their country. As each of those tribunals could only act in proportion to the power delegated to it, it was impossible that so many different and unequal impressions should give to the great machine of the state that uniform and regular movement which, by an impulse always the same, would keep each part in the situation it should maintain with relation to the whole.

To effect this universal and harmonious power, it was necessary to unite the different channels of public authority, which, by being too much distributed, lost its force. This authority Solon collected, and placed it all in the court of Areopagus, which consequently became the main spring of the government. The judges of this court, who, under Draco, decided only in cases of murder, now took cognizance of crimes of every kind: and the same tribunal which inflicted capital punishment on murder, poisoning, burning of houses, theft, &c. struck at the roots of those crimes, by arraigning idleness, luxury, and debauchery. Equally attentive to stimulate the indolence of the young, and the languor of the old, these sage judges roused in the one the laudable ambition to serve the state, and restored to the others their former activity. Satisfied that extremes produce the same effects, they thought the republic had as much to fear from the excess of wealth as from the gripe of poverty. Hence they exacted a minute account of the effects of every individual. Hence their great severity to those idle citizens, who, instead of being useful members in a state, are its bane and its dishonour. Isocrates draws a most beautiful and striking picture of those venerable and astonishing men, and of the order and harmony which flourished in Athens by their wise administration.

The judges of the Areopagus, says that author, were more industrious to prevent crimes, by representing them in an odious light, than to establish modes of punishment. It was their opinion, that the enemies of the state were the instruments destined by the gods to punish the wicked; but that it was their province to correct and reform public and private manners. They were vigilantly attentive to the conduct of all the citizens, but particularly to that of the youth. They well knew that the impetuosity of juvenile passion gave the most violent shocks to health and growing virtue; that it was the duty of inspectors of education to soften the austerity of moral discipline with innocent pleasure; and that no recreations were more eligible than bodily exercises, which enable a young man to give a good education its full play, which improve health, give a pleasurable and agreeable vivacity, and even fortify the mind. The fortunes of the Athenians were too unequal to admit the same mode of education; and therefore the youth were trained in a manner suitable to the rank and circumstances of their respective families.



Areopagus. lies. Those of the inferior classes were taught agriculture and commerce; from this principle, that idleness is followed by indigence, and that indigence excites to the most daring and atrocious crimes. Having thus endeavoured, by wise precautions, to preclude the entrance of moral evil, they thought they had little to fear.

Exercises of the body, such as horsemanship and hunting, were objects of education to the youth of liberal fortune. In this sage distribution, their great aim was to prevent the poor from committing crimes, and to facilitate to the rich the acquisition of virtue. Not satisfied with having established good laws, they were extremely careful to see that they were observed. With this view they had divided the city into quarters, and the country into cantons. Thus every thing passed under their eyes; nothing escaped them; they were acquainted with the private conduct of every citizen. Those who had been guilty of any irregularity were cited before the magistrates, and were reprehended, or punished in proportion to their misdeemeanour.

The same Areopagites obliged the rich to relieve the poor. They repressed the intemperance of the youth by a severe discipline. Corruption in magistrates was suppressed by the punishments denounced against it; and the old men, at the sight of the employments of the young, felt themselves animated with a degree of juvenile vigour and activity.

Religion came likewise under the cognizance of the Areopagites. Plato durst never, as we are told by Justin Martyr, divulge his private opinion concerning the Deity. He had learned from the Egyptians the doctrine of Moses. It appeared to him the best, and he embraced it with ardour. But his dread of the Areopagites, who were attached to the prevailing system, would not permit him even to name the author of sentiments which opposed the common tradition.

The public edifices, the cleanness of the streets, the pay of the soldiers, the distribution of the public money; in a word, whatever interested the republic, was under the direction of the Areopagus. The people themselves, jealous as they were of their power, did nothing without consulting this assembly, and suffered it without a murmur, to amend their precipitate decrees. Yet this authority, however great it may seem, was subject to the laws; by them rewards and punishments were determined; and those respectable judges gave an account of the exercise of their trust to public censors, who were placed betwixt them and the people, to prevent the aristocracy from growing too powerful.

The most important qualifications were required in those who entered into the Areopagus. Solon made a law, by which they who had not been archons for a year should not be admitted members of the Areopagus. To give more force to his law, he subjected himself to it, and was only admitted on that title. This was but the first step; those annual magistrates, after having given law to the republic, were interrogated on their administration. If their conduct was found irreproachable, they were admitted Areopagites with eulogium; but the smallest misconduct excluded them from that honour for ever. What administration was not to be expected from a tribunal so well composed!

what veneration was not due to men of such rare talents and virtue! Such respect was paid them, that people presumed not to laugh in their presence; and so well established was their reputation for equity, that those whom they condemned, or dismissed without granting their petition, never complained that they had been unjustly treated.

The edifice of the Areopagus was extremely simple; and its roof, which was at first of the most common materials, remained in that state till the time of Augustus. This we learn from Vitruvius. Orestes was the first who thought of embellishing it. He raised in it an altar to Minerva. He likewise adorned it with two seats of solid silver; on one of which the *accuser* sat, and the *accused* on the other. The one seat was consecrated to *Injury*, and the other to *Impudence*. This religious sketch was brought to perfection by Epimenides, who erected altars to those allegorical deities, and soon after a temple, which Cicero mentions in his second book of laws. This temple corresponded with that which Orestes had built to the Furies, who brought him to Athens, and procured him the protection of Minerva. Epimenides dedicated it a second time to the Furies, or *severe Goddesses*, as they were termed by the Athenians. A man was thought lost without resource, and a victim to every human ill, if he enforced a perjury by invoking the sacred name of those tremendous divinities.

Those who employed their thoughts in solving the mysteries of Paganism, imagined that the Eumenides had their temple so near the court of Areopagus, that they might enlighten the judges by their inspiration, and, by their continual assistance, prevent them from committing those errors to which human weakness is liable. To propitiate those terrible deities, and to procure their favour for the Areopagus, they were worshipped with great punctuality and devotion; and the senate itself appointed their priests. Demosthenes had been nominated to preside over their sacrifices; and he thought it very extraordinary, that he, to whom the republic had confided so important an office, should be publicly impeached.

It was natural to associate with the Eumenides the other deities who shared with them the sovereign empire over the dead. Epimenides placed in their temples the statues of Pluto, of Mercury, and of Tellus. They were all, according to Pausanias, of an agreeable form. Each of them was placed upon an altar, on which the citizens, or strangers, who had been acquitted by the Areopagus, made their grateful offerings. But it was not to gratitude alone that these several deities owed all the incense that smoked upon their altars. They who had been accused before the senate, harassed with superstition, and uncertain how these deities would be affected towards them, were lavish of sacrifices to obtain their clemency, by which they hoped their judges would likewise be influenced.

The tomb of Oedipus was another of the ornaments of the Areopagus. It was in the outward court of the Areopagus, where a barge was likewise placed, which made a part of the pomp at the public games.

Whatever homage and implicit obedience the court of Areopagus might derive from all this religious parade, the public good was always dearer to them than



Areopagus than any lower advantages they might have drawn from the altars and temples with which they were surrounded.

The senate assembled in a hall built on the summit of a hill, which was ascended with difficulty by the old men bent with age. However; as for some time they only assembled on the three last days of each month, they bore with patience this inconvenient situation. But public affairs multiplied to such a degree, that they were obliged to add to the three former sittings a fourth, which was held on the seventh day of the month, and which was soon succeeded by an assembly every day. Their meetings were so regular, that they were not interrupted by the most solemn festivals, till Cephisodorus was archon, who, in the third year of the 105th Olympiad, made a decree, which obliged the Areopagites to celebrate, after the example of the other courts, the Apaturian feasts, which lasted five days.

This assiduous and painful exercise of their office made the Areopagites feel all the inconvenience of the situation of their tribunal, and determined them to remove it to a part of the city called the *Royal Portico*. It was a square, exposed to all the inclemencies of the weather. When the judges, who assembled there in profound silence, had taken their places, they were enclosed by a thread, or rather a cord, drawn around them.

They held their assemblies in the night, that their attention to public affairs might not be diverted by external objects,—and (adds Lucian) that they might only be influenced by the arguments, and not by the presence and action, of the speakers. This circumstance explains a passage in Athenæus, who tells us, that none knew the numbers nor faces of the Areopagites. The custom of administering justice in the open air was not peculiar to them. It was followed by all the other tribunals when they tried for murder: for two reasons:—1st, That the judges, the sworn protectors of innocence, might not be hurt by being under cover with criminals, whose hands were polluted with blood. 2dly, That the accuser and the accused might not be under the same roof.

When all the members of the senate were convened, a herald enjoined silence, and ordered the people to retire. As soon as they had departed, the assembly proceeded to business; and as they deemed the least preference a flagrant injustice, the causes which they were to determine were drawn by a kind of lottery; and the same chance which brought them up, distributed them to different numbers of judges, small or great, according to the importance of the several causes.

In early times, the parties themselves stated their cause in a simple manner. The eloquence of advocates was thought a dangerous talent, fit only to varnish crimes. But afterwards the Areopagus, on this point, relaxed from their severity; at first the accused, and soon after the accusers, were permitted to engage those to make the attack and the defence, whose profession it was to exert the art of speaking for others, with accuracy and elegance.

Sextus Empiricus seems not to have sufficiently distinguished times, where he says, that the court of Areopagus did not suffer those who are to be tried at

their bar to avail themselves of the abilities of others. Areopagus

What undoubtedly led him into that mistake, was an inviolable custom of that tribunal, which prohibited, in pleadings, all that warm and picturesque oratory which seduces the judgment and inflames the passions. When the suffrages were collected, each person gave his in silence. They voted with a small flint, which they held betwixt the thumb and the two next fingers, and which they put into one of the two urns that stood in a corner of the hall. One stood before the other. The first was called the *urn of death*; the second, the *urn of compassion*. That of death was of brass, and was termed *proper*; that of compassion was of wood, and was termed *improper*. The judges commonly brought their flint to the assembly, and put it into the urn; but, that all the suffrages might be collected, the herald took the two urns, and presented them, one after another, to every senator, commanding him, in the name of the republic, no longer to defer his acquittal or condemnation.

From this method of giving sentence, which was called *κελευσθην ψηφος*, because it kept the vote of each person undiscovered, the Thirty Tyrants, to make themselves masters of the decisions of the Areopagus, substituted another, by means of which they knew exactly the opinion of each of the judges; for they obliged them to bring their flints publicly, and lay them upon two tables placed before them, the situation of which was quite opposite to that of the urns; for the first of those tables was that of *life*, and the second that of *death*.

The first substances with which they gave their suffrages were not small pieces of the bones of a hog, as some authors assert, but sea shells, for which pieces of brass, of the same form, termed *spondyla*, were afterwards substituted. The substances with which they voted were distinguished by their form and colour. Those which condemned were black, and perforated in the middle; the others were white, and not perforated. The precaution of piercing the black ones tends to prove, what we have already observed, that the court of Areopagus sat in the night: for what end did it serve to pierce the black shells, or flints, if the judges could have seen them and the white ones, and consequently have distinguished their colours by the assistance of the light? But as they passed sentence in the dark, it is evident that a difference besides that of colour was necessary, to know the black ones from the white. The judges were likewise permitted to multiply at pleasure the distinctions between signs, which essentially distinguished the fates of men.

After the suffrages were collected, they were taken out of the two urns, and put into a third vase of brass. They were then counted; and as the number of white or of black flints was higher or inferior, one of the judges drew with his nail a shorter or a longer line on a tablet with a waxen surface, on which the result of each cause was marked. The short line expressed acquittal; the long, condemnation.

With regard to the emoluments of the judges, they were as moderate as those of the advocates. The length of the process did not enhance its expence; and when the decision of a cause was postponed till the next day, the committee were only paid an obolus on that day. Hence Mercury, in Lucian, is surprised that such  
sensible



Areopagus. sensible old men as the senators of Areopagus were should sell at so low a price the trouble of ascending so high.

As to the number of the judges which composed the Areopagus, some authors, attentive only to a part of Solon's regulations, by which he enacted, that for the future, none but the nine archons should be admitted members of the Areopagus, have imagined, that this tribunal was filled anew every year, and that it never consisted of more than nine magistrates. This opinion, and some others, are refuted by the circumstantial account which Diogenes Laertius gives us of the condemnation of Socrates. This great man had wished to substitute a rational hypothesis for the fabulous and extravagant system of religion which prevailed in his time. His project, however laudable, appeared impious in the eye of superstition. Information was laid against him before the Areopagus, and he had as many accusers as fellow citizens. After the charges and the answers were heard, they proceeded to suffrages. The opinions were divided, but not equally, for the number of those who condemned him exceeded by 281 the number of those who declared him innocent. He made an ironical reply to this iniquitous sentence, by telling his judges, that he took it for granted, they would admit him to a maintenance in the Prytaneum. On this sarcasm, 80 of those who had voted in his favour forsook him, went over to the opposite party, and condemned him to die. Here then we have 361 judges who condemn; to whom if we add those who persist in acquitting him, the number must be very considerable.

Of all the judgments of the Areopagus, the most famous one, excepting that of Mars, was the sentence which they passed on Orestes. His trial, which happened under Demophoon the 12th king of Athens, in 375 of the Attic era, owed all its fame to a remarkable circumstance, that gave rise to a custom which was observed ever afterwards. Orestes had killed his mother. He was accused before the Areopagus, and cited to appear in that court. He would have lost his life in consequence of the equal division of the votes, had not Minerva, moved with his misfortunes, declared herself for those who had absolved him, and joined her suffrage to theirs. Thus Orestes was saved. In veneration to this miracle, the Areopagites, whenever the suffrages were equally divided, decided in favour of the accused, by granting him what they termed *the spell of Minerva*. Cephalus and Dædalus were condemned by the Areopagus long before the time of Orestes.

We find in ancient authors some decisions of this tribunal, which bear the strongest marks of justice, though their objects are not interesting. We shall here quote an anecdote from Aulus Gellius, and Valerius Maximus, of a woman, who was accused of having poisoned her husband and her son. She was taken and brought before Dolabella, who was then consul of Asia. She was no sooner in his presence than she owned the fact; and added, that she had very good reasons for putting her husband and her son to death.—“I had (said she) to my first husband a son whom I tenderly loved, and whose virtues rendered him worthy of my affection. My second husband, and the son whom I bore to him, murdered my favour-

ite child. I thought it would have been unjust to Areopagus, have suffered those two monsters of barbarity to live. Arequiba. If you think, Sir, that I have committed a crime, it is your province to punish it: I certainly shall never repent of it.” This affair embarrassed Dolabella. She was afterwards sent to the Areopagus; and that court, when they had examined her a long time, ordered her and her accuser to appear before them again a hundred years after, from the first day of her trial.

We must not, however, suppose that the Areopagus always preserved its old reputation; for such is the constitution of human affairs, that perfection, with regard to them, is a violent, and consequently a transitory, state. Pericles, who lived about 100 years after Solon, to flatter the people and win them to his party, used his utmost efforts to weaken the authority of the Areopagus, which was then disliked by the multitude. He took from it the cognizance of many affairs which had before come under its jurisdiction; and to forward his design of humbling it, employed the eloquence of Epicharmus, whose talents were formidable, and who was an avowed enemy to the great men of Athens.

The Areopagus itself seemed to second the endeavours of a man who projected its ruin, and by its misconduct hastened its fall. The old rules of the court, by which none were admitted its members but those whose unexceptionable conduct would support its majesty, seemed too severe. They grew less delicate in their choice; and presuming that the faults with which they dispensed, would soon be reformed in the society of so many good examples, vice imperceptibly crept among them: corruption, at first secret and timid, grew insensibly open and daring, and made such progress, that the most shameful crimes were soon exhibited on the stage; and they were not copied from the low and abandoned multitude, but from those senators, once the venerable and austere censors of idleness and of vice. Demetrius, the comic poet, wrote a piece which he entitled *The Areopagite*, where he strips the mask off those hypocritical legislators, who were now equally apt to be seduced by wealth and by beauty. So much had the Athenian senate degenerated in the days of Isocrates, cir. 340 years before the Christian era.

Before this tribunal St Paul was called to give an account of his doctrine, and converted Dionysius one of their number.

The end of this court of judicature is as obscure as its origin, which was derived from very remote antiquity. It existed, with the other magistracies, in the time of Pausanias, i. e. in the 2d century. The term of its subsequent duration is not ascertained; but a writer, who lived under the emperors Theodosius the Elder and Younger, in the 5th century, mentions it as extinct.

AREQUIBA, a city of Peru in South America, situated in W. Long. 73°. S. Lat. 17°. It is one of the most beautiful cities in all Peru, being delightfully situated in the valley of Quilca, 100 leagues from Lima, and 20 from the sea, with which it communicates by a fine river. The entrance into the harbour is rather shallow for ships of great burden; but when once they are entered, they may ride securely in 18 fathoms water. This city was founded in 1539, by order of Don Francisco Pizarro, in a place known likewise by the name of *Arequiba*; but its situation being found disadvantageous,



Ares  
||  
Arethusa.

disadvantageous, the inhabitants obtained leave to remove to the place where the city now stands. The houses are built with stone, and vaulted; and, contrary to what is usual in warm countries, they are lofty, neatly furnished within, and finely decorated on the outside. The inhabitants also are exempt from many diseases common in other parts of Peru; which perhaps is owing to their keeping the streets clean by means of canals which extend to the river. The temperature of the air is extremely good; and though sometimes a slight frost is perceivable, the cold is never excessive, nor the heat troublesome, so that the surrounding fields are clothed with perpetual verdure. These natural advantages, however, are considerably allayed by its being very subject to earthquakes, by which it has already been five times laid in ruins; notwithstanding which, it is populous, and has among its inhabitants some of the noblest families in America.

ARES, a word of Paracelsus's, by which he would express that power of nature in the whole material world, by which species are divided into individuals.

ARETÆUS of Cappadocia, a Greek physician of the sect of the Pneumatists, lived in the reign of Augustus, according to some; according to others, under Trajan or Adrian. He wrote several treatises in the Ionian dialect, on acute diseases, and other medicinal subjects; some of which are still extant. The best edition of his works is that of Boerhaave, in Greek and Latin, with notes, printed in 1731; that of Wigan, printed at Oxford in 1723, in folio, is also much esteemed.

ARETHUSA, in *Fabulous History*, the daughter of Nereus and Doris, and the companion of Diana, who changed her into a fountain to deliver her from the pursuit of her lover Alpheus.

ARETHUSA, a celebrated fountain near the city of Syracuse in Sicily, famous for the quantity of its waters, and the number of fishes it contained. Many fables were invented by the ancients concerning this fountain. They had also a notion that the river ALPHEUS ran under or through the waters of the sea, without mixing with them, from Peloponnesus to Sicily. Mr Brydone informs us, that it still continues to send forth an immense quantity of water, rising at once to the size of a river, but is entirely abandoned by the fishes it formerly contained in such plenty. At some distance from Arethusa is a fountain of fresh water which boils up very strongly in the sea, inasmuch that, after piercing the salt water, it may be sometimes taken up very little affected by it. This fountain Mr Brydone thinks the ancients were ignorant of, or they would not have failed to use it as an argument for the submarine journey of Alpheus.

Mr Swinburne describes this once famous fountain as a large pool of water near the quay, defended from the sea by a wall, and almost hidden by houses on every other side. The water is not salt, but brackish, and fit for no purpose but washing linen. "This (says he) is the celebrated fountain of Arethusa, whose soft poetical name is known to every reader. The fable of the nymph and her constant lover Alpheus, the excellency of the spring, and the charms of its situation, are themes on which ancient and modern poets have indulged their fancy, and exercised their pens. Alas, how altered! rubbish chokes up its wholesome sources; the waves

Vol. II. Part II.

have found a passage through the rocks, which repeated earthquakes have split; and not a fish is to be seen in it. Sometimes, after an earthquake, it has been left dry; and, at other times, the whole mass of its waters has been tainted by subterraneous effluvia. Its fountain head probably lies among the neighbouring hills."

ARETHUSA. See *BOTANY Index*.

ARETIA. See *BOTANY Index*.

ARETIN, GUIDO, famous for his musical improvements, lived in the 13th century. He was a native of Arezzo, a city in Tuscany; and having been taught the practice of music in his youth, and probably retained as a chorister in the service of the Benedictine monastery founded in that city, he became a monk professed, and a brother of the order of St Benedict.

In this retirement he seems to have devoted himself to the study of music, particularly the system of the ancients, and, above all, to reform their method of notation. The difficulties that attended the instruction of youth in the church offices were so great, that, as he himself says, ten years were generally consumed barely in acquiring the knowledge of the plain song; and this consideration induced him to labour after some amendment, some method that might facilitate instruction, and enable those employed in the choral office to perform the duties of it in a correct and decent manner. If we may credit those legendary accounts that are extant in old monkish manuscripts, we should believe he was assisted in his pious intention by immediate communications from heaven: some speak of the invention of the syllables as the effect of inspiration; and Guido himself seems to have been of the same opinion, by his saying it was revealed to him by the Lord; or, as some interpret his words, in a dream: but graver historians say, that being at vespers in the chapel of his monastery, it happened that one of the offices appointed for that day was the hymn \* to St John.

<i>UT</i> queant laxis	<i>RE</i> sonare fibris
<i>MIR</i> a gestorum	<i>FAM</i> uli tuorum
<i>SOL</i> ve pollutis	<i>LAB</i> ii reatum,
	<i>SAN</i> cte Joannes.

\* Composed by Paul, a deacon of the church of Aquileia about the year 770.

During the performance of the hymn, he remarked the iteration of the words, and the frequent returns of *UT, RE, MI, FA, SOL, LA*: he observed likewise a dissimilarity between the closeness of the syllable *MI* and the broad open sound of *FA*, which he thought could not fail to impress upon the mind a lasting idea of their congruity; and immediately conceived a thought of applying these six syllables to perfect an improvement either then actually made by him, or under consideration, viz. that of converting the ancient tetrachords into hexachords.

Struck with the discovery, he retired to his study, and having perfected his system, began to introduce it into practice; the persons to whom he communicated it were the brethren of his own monastery, from whom it met with but a cold reception, which in the epistle to his friend, he ascribes undoubtedly to its true cause, envy: however his interest with the abbot, and his employment in the chapel, gave him an opportunity of trying the efficacy of his method on the boys who were training up for the choral service, and it exceeded the most sanguine expectation. "To the admiration of all (says Cardinal Baronius) a boy there-

4 G

by





Aretin. by learnt, in a few months, what no man, though of great ingenuity, could before that attain in several years."

The fame of Guido's invention soon spread abroad, and his method of instruction was adopted by the clergy of other countries. We are told by Kircher, that Hermannus, bishop of Hamburg, and Elviricus bishop of Osnaburg, made use of it, and by the authors of the *Histoire Littéraire de la France*, that it was received in that country, and taught in all the monasteries in the kingdom. It is certain that the reputation of his great skill in music had excited in the pope a desire to see and converse with him; of which, and of his going to Rome for that purpose, and the reception he met with from the pontiff, he himself has given a circumstantial account in the epistle hereafter mentioned.

The particulars of this relation are very curious; and as we have his own authority, there is no room to doubt the truth of it. It seems that John XX. or as some writers compute, the 19th pope of that name, having heard of the fame of Guido's school, and conceiving a desire to see him, sent three messengers to invite him to Rome; upon their arrival, it was resolved by the brethren of the monastery, that he should go thither attended by Grimaldo the abbot, and Peter the chief of the canons of the church of Arezzo. Arriving at Rome, he was presented to the holy father, and by him received with great kindness. The pope had several conversations with him, in all which he interrogated him as to his knowledge in music; and upon sight of an antiphony which Guido had brought with him, marked with the syllables agreeable to his new invention, the pope looked on it as a kind of prodigy; and ruminating on the doctrines delivered by Guido, would not stir from his seat till he had learned perfectly to sing off a verse: upon which he declared, that he could not have believed the efficacy of the method, if he had not been convinced by the experiment he had himself made of it. The pope would have detained him at Rome; but labouring under a bodily disorder, and fearing an injury to his health from the air of the place, and the heats of the summer, which was then approaching, Guido left that city upon a promise to revisit it, and explain to his holiness the principles of his new system. On his return homewards, he made a visit to the abbot of Pomposa, a town in the duchy of Ferrara, who was very earnest to have Guido settle in the monastery of that place; to which invitation it seems he yielded, being, as he says, desirous of rendering so great a monastery still more famous by his studies there.

Here it was that he composed a tract on music, entitled *Micrologus*, i. e. "a short discourse;" which he dedicated to Theodald bishop of Arezzo; and finished, as he himself at the end of it tells us, under the pontificate of John XX. and in the 34th year of his age. Vossius speaks also of another musical treatise written by him, and dedicated to the same person.

Most of the authors who have taken occasion to mention Guido, speak of the *Micrologus* as containing the sum of his doctrine: but it is in a small tract, entitled *Argumentum novi Cantus inveniendi*, that his declaration of his use of the syllables, with their several mutations, and in short his whole doctrine of solmisation, is to be found. This tract makes part of an

epistle to a very dear and intimate friend of Guido, whom he addresses thus, "Beatissimo atque dulcissimo fratri Michaeli;" at whose request the tract itself seems to have been composed.

Whether Guido was the author of any other tracts, is not easy to determine. It nowhere appears that any of his works were ever printed, except that Baronius, in his *Annales Ecclesiastici*, tom. xi. p. 73. has given at length the epistle from him to his friend Michael of Pomposa, and that to Theodald bishop of Arezzo, prefixed to the *Micrologus*: and yet the writers on music speak of the *Micrologus* as of a book in the hands of every one. Martini cites several manuscripts of Guido; namely, two in the Ambrosian library at Milan, the one written about the twelfth century, the other less ancient; another among the archives of the chapter of Pistoja, a city in Tuscany; and a third in the Mediceo-Laurenziano library at Florence, of the 15th century: these are clearly the *Micrologus*. Of the epistle to Michael of Pomposa, together with the *Argumentum novi Cantus inveniendi*, he mentions only one, which he says is somewhere at Ratisbon. Of the several tracts above mentioned, the last excepted, a manuscript is extant in the library of Baliol-college in Oxford. Several fragments of the two first, in one volume, are also among the Harleian manuscripts now in the British Museum, N<sup>o</sup> 3199; but so very much mutilated, that they afford but small satisfaction to a curious inquirer.

ARETIN, Leonard, one of the most learned men of the 15th century, was secretary to the republic of Florence, and translated from the Greek into Latin some of the Lives of Plutarch, and Aristotle's Ethics: he also composed three books of the Punic war, that may serve as a supplement to those wanting in Livy; the history of the transactions in Italy during his time; that of ancient Greece; that of the Goths; that of the republic of Florence; and many other books. He died in 1443, aged 74.

ARETIN, Francis, a man of great reading, and well acquainted with the Greek language. He translated into Latin the Commentaries of St Chrysostom upon St John, and about 20 Homilies of the same father: he also translated the Letters of Phalaris into Latin, and wrote a treatise *De balneis Puteolanis*. He studied at Sienna, about the year 1443; and afterwards taught law there with such reputation, that they called him the *Prince of Subtleties*, and his wit became a proverb. He displayed his talents chiefly in disputes, in which nobody could withstand him. He gave his opinions in law with so much confidence, as to assure those who consulted him that they should carry their cause: nor did experience contradict him; for it was a common saying at the bar, such a cause has been condemned by Aretin, it must therefore be lost. He taught also in the university of Pisa, and in that of Ferrara. He was at Rome under the pontificate of Sixtus IV. but did not stay here long; for he soon perceived that the great hopes which he had built upon his reputation would come to nothing. This pope, however, declared he would have given him a cardinal's hat, had he not thought he should have done a public injury by depriving the youth of such an excellent professor. When old age would not permit him to go through the duties of his office, they dispensed with his reading



Aretin,  
Arctologi.

of lectures, and his salary was continued. He continued, however, sometimes to mount the chair; and although his lectures had now but little spirit in them, yet he had still many hearers on account of his reputation. One day when the students were gone to some public shows, there were but 40 persons in his auditory; which so mortified him, that he threw away his book; and crying out, "Aretin shall never explain law to a few persons," retired in a passion, and would teach no more. He was severe in his temper, and never kept a servant longer than a month or two; for it was a maxim of his, "that new-hired servants always serve best." He was honoured with the title of *knight*, and spent all his life in celibacy; and his way of living was so parsimonious, that he was thereby enabled to amass a great deal of wealth. He had designed this wealth for the maintenance of a college; but he altered his resolution, and left it to his relations.

ARETIN, *Peter*, a native of Arezzo, who lived in the 16th century. He was famous for his satirical writings; and was so bold as to carry his invectives even against sovereigns, and from thence got the title of the *Scourge of Princes*. Francis I. the emperor Charles V. most of the princes of Italy, several cardinals, and many noblemen, courted his friendship by presents, either because they liked his compositions, or perhaps from an apprehension of falling under the lash of his satire. Aretin became thereupon so insolent, that he is said to have got a medal struck, on one side of which he is represented with these words, *IL DIVINO ARETINO*; and on the reverse, sitting upon a throne, receiving the presents of princes, with these words, *I PRINCIPI TRIBUTATI DA POPOLI, TRIBUTANO IL SERVIZIO LORO*. Some imagine that he gave himself the title of *Divine*, signifying thereby that he performed the functions of a god upon earth, by the thunderbolts with which he struck the heads of the highest personages. He used to boast, that his lampoons did more service to the world than sermons; and it was said of him, that he had subjected more princes by his pen than the greatest had ever done by their arms. Aretin wrote many irreligious and obscene pieces; such are his dialogues, which were called *Ragionamenti*. There is likewise imputed to him another very obscene performance, *De omnibus Veneris schematibus*. "It was about the year 1525 (says Mr Chevallier \*) that Julio Romano, the most famous painter of Italy, instigated by the enemy of the salvation of mankind, invented drawings to engrave 20 plates: the subjects are so immodest that I dare only name them. Peter Aretin composed sonnets for each figure. George Vasari, who relates this in his *Lives of the Painters*, says, he does not know which would be the greatest impurity, to cast one's eyes upon the drawings of Julio, or to dip into the verses of Aretin." Some say that Aretin changed his libertine principles; but however this may be, it is certain that he composed several pieces of devotion. He wrote a paraphrase on the penitential psalms, and another on Genesis; he wrote also the *Life of the Virgin Mary*, and that of *St Catharine of Sienna*, and of *St Thomas Aquinas*. He was author likewise of some comedies. He died in the year 1556, at the age of 65.

ARETOLOGI, in *Antiquity*, a sort of philoso-

phers, chiefly of the Cynic or Stoic tribe, who having no school or disciples of their own, haunted the tables of great men, and entertained them in their banquets with disputations on virtue, vice, and other popular topics. These are sometimes also denominated *Circulatores Philosophi*. In this sense, the word is derived from the Greek *αρετη*, *virtue*, and *λογος*, *discourse*. Some authors choose to derive the word from *αρετος*, *gratus*, "agreeable;" and define Aretologi, by persons who strive to divert and entertain their audience with jokes and pleasant tales; which latter seems the more natural explication.

AREZZO, a city of Italy, in Tuscany, seated in the territory of Florence, on the declivity of a hill that overlooks the neighbouring plain, between the Citta di Castelli and Florence. It is an ancient city and a bishop's see; and was famous for a kind of earthen ware much esteemed by the Romans. It was greatly fallen to decay when Cosmo de Medicis took it under his protection; since which it has been recovering gradually. It is famed for being the birthplace of Mecænas. E. Long. 12. 2. N. Lat. 43. 27.

ARGEIA, or ARGÆI, in *Roman Antiquity*, thirty human figures, made of rushes, thrown annually by the priests or vestals into the Tiber, on the day of the ides of May.—Plutarch, in his *Roman Questions*, inquires why they were called *Argea*. There are two reasons assigned. The first, that the barbarous nations who first inhabited these parts cast all the Greeks they could meet with into the Tiber: for Argians was a common name for all Grecians: but that Hercules persuaded them to quit so inhuman a practice, and to purge themselves of the crime by instituting this solemnity. The second, that Evander, an Arcadian, and a sworn enemy of the Argians, to perpetuate that enmity to his posterity, ordered the figures of Argians to be thus cast into the river.

ARGEIA, or ARGOLIS, a district of Peloponnesus, situated between Arcadia to the west, the Ægean sea to the east, Laconia and the Sinus Argolicus to the south, and to the north the territory of Corinth and the Sinus Saronicus (Livy, Ptolemy); so called from ARGOS, the capital: Now *Romania di Morea*.

By the Greeks the people were called *Argeii*, from *Argi* or *Argos*; by the Romans, *Argivi*, Argives. They were a colony who migrated, it is said, from Egypt, under the command of Inachus. Polemon and Ptolemy Mendesium, ancient Greek writers, inform us, that Inachus was contemporary with Amosis, who demolished Avaris, and expelled the shepherds out of Egypt. If, with some learned chronologers, we suppose Inachus to have begun to reform the Argives B. C. 1856, and to have died B. C. 1808, he must have been coeval with Amosis, who reigned in Upper Egypt 15 years before the expulsion of the shepherds, and 10 years after that event, which happened B. C. 1806. Inachus was styled the *Son of the Ocean*, because his origin was not known, or because he had come by sea into Greece. Before his arrival the inhabitants were rude and barbarous. These he united and civilized, and instructed in various arts. His son Phoroneus instituted the laws of government; and, on that account, has been called the *first king in Argos*, the *first of men*, and the *father of mortals*. The family of Inachus, after having kept possession of the

Arezzo  
||  
Argeia.

\* *Origin de l'imprimerie de Paris*, p. 224.



<sup>Argemone</sup>  
<sup>Argentaria</sup> throne 347 years, were expelled by Danaus, who arrived B. C. 1509 with a colony from Canaan. Acrisius, the last king of Argos, died B. C. 1313; and was succeeded by Perseus, his grandson, who transferred the seat of government to Mycenæ, 544 years from the first year of Inachus, in the reign of Cæcrops II. king of Athens, and about the time when Pelops the son of Tantalus king of Phrygia, having been compelled by Ilus to leave his native country, came into Greece with great wealth, and acquired supreme power in the region afterwards called by his name. In the 37th year of Eurystheus, grandson of Perseus, the Argonautic expedition happened, i. e. B. C. 1224. This unjust and tyrannical prince had assigned to Hercules his tasks; and, after the death of that hero, he banished all his children. These were the Heraclidæ who fled to Athens for protection, and who returned to Peloponnesus 40 years after the destruction of Troy. In the reign of Agamemnon, the Trojan war commenced, and it was carried on with vigour during the space of ten years. In the year B. C. 1184, Troy was taken, and the war was concluded. Scarcely had the Grecians settled in their own country after their return from this dangerous expedition, when the posterity of Hercules invaded Peloponnesus, took possession of it, and divided it among themselves. Here the kingdom of Mycenæ ended, and that of Sparta was established on its ruins. See SPARTA.

ARGEMONE, PRICKLY POPPY. See BOTANY Index.

ARGENCES, a town of France, in Lower Normandy, now the department of Calvados, on the river Meance. W. Long. 0. 10. N. Lat. 49. 15.

ARGENT, the common French word for *silver*, of which metal all white fields or charges are supposed to consist. Argent of itself is used in heraldry to signify purity, innocence, beauty, and gentleness; and, according to G. Leigh, if it is compounded with

Gul.	} it signifies	{	boldness;
Azu.			courtesy;
Ver.			virtue;
Pur.			favour;
Sab.			religion.

ARGENTAC, a town of France, in the Limosin, on the river Dordogne. E. Long. 2. 3. N. Lat. 45. 5.

ARGENTAN, a town of France, in the department of Orne, and in the diocese of the Seez. It is seated on an eminence, in the middle of a fertile plain, on the banks of the river Orne, and has a considerable trade in lace. E. Long. 0. 5. N. Lat. 48. 54.

ARGENTARIA, a town of ancient Gaul, thought to stand in the place where the city Colmar now stands. It is remarkable for a great victory gained by the emperor Gratian over the Lentienses, in the month of May, A. D. 378. The Romans being but few in number, were at first overpowered, and obliged to give ground; but soon returning to the charge, they gained in the end a complete victory. Thirty thousand of the barbarians, and among the rest their king Triarius, were killed on the spot; and all the rest, except 5000, taken prisoners.

ARGENTARIA *Creta*, pure white earth, found in Prussia, and much esteemed for cleaning plate.

ARGENTARIUS is frequently used in Roman writers for a money changer or banker. The argentarii were monied people, who made a profit either by the changing, or lending of money at interest. These had their *tabernæ*, or offices, in the *forum Romanum*, built there as early as the reign of L. Tarquinius Priscus. The argentarii and *fœneratores* were much hated on account of their covetousness and extortion.

ARGENTATI MILITES, in *Antiquity*. Livy, lib. vi. speaks of *argentati milites*, as distinguished from *aurati*. Aquinas supposes these to have been similar to the *argyraspides* and *chryspaspides*; but the descriptions do not quadrate. Livy only represents the *argentati* as clothed in white linen coats.

ARGENTEUIL, a town of the Isle of France, seated on the river Seine, five miles north-west of Paris. It is a very beautiful place, with fine vineyards. In the environs are quarries of stucco. In the Benedictine priory they pretend to have the seamless coat of Christ. E. Long. 2. 28. N. Lat. 48. 52.

ARGENTIERE, a small island in the Archipelago, near Milo. It is about 18 miles in compass; and is full of barren mountains, producing nothing but barley, cotton, and a few grapes fit only for eating. The barley and cotton are sown round the only village there is in the island. The ladies are handsome enough, have no other employment but making cotton stockings, and take up with the sailors who put into the port. The men all use the sea, and in time become good pilots. They have very little religion, are very ignorant, and of very bad morals. Justice is administered by an itinerant *cadi*, who is sometimes the only *Musfulman* in the whole island. The only article relating to natural history is the terra *Cimolia* so highly esteemed by the ancients; it is a kind of white chalk, which is very heavy, without taste, and crumbles easily: they use it in washing linen. E. Long. 23. 10. N. Lat. 36. 50.

ARGENTINA. See ICHTHYOLOGY Index.

ARGENTINUS, a deity worshipped by the ancients, as the god of silver coin; as *Æsculanus*, whom they made his father, was the god of brass money, which was in use before silver.

ARGENTON, a town and county of France, in the department of Indre, divided into two by the river Creuse. Here was formerly a castle; but it was demolished by Lewis XIV. E. Long. 1. 38. N. Lat. 40. 30.

ARGENTORA, *Argentina*, (*Notitiæ*); *Argentoratum*, (Ptolemy); *Argentoratus*, (Ammian); a city of the Tribocci; one of the fifty forts built by Drusus on the Rhine, (Florus): an appellation formed by the Romans from the German, *Argen Strassen*, or *Straten*, "unsafe roads for travellers," from the marauding parties of the garrisons that infested the roads. Now *Strasbourg*, in Lower Alsace, on the rivulet Ill, near the Rhine. E. Long. 7. 35. N. Lat. 48. 38.

ARGENTUM ALBUM, in our old customs, silver coin, or pieces of bullion that anciently passed for money. By Doomsday tenure, some rents to the king were paid in *argento albo*, common silver pieces of money; other rents in *libris urfis et pensatis*, in metal of full weight and purity: in the next age, that rent which was paid in money, was called *blanch farm*, and

Argenta-  
rius  
Argentum.



Argentum and afterwards *white rent*; and what was paid in provisions, was termed *black mail*.

ARGENTUM *Dei*, God's penny, anciently signified earnest money, or money given to bind a bargain; in some places called *erles*, or *arles*, and by the civilians and canonists, *arrhe*. *Et cepit de prædicto Henrico tres denarios de argenti Dei præ manibus*.

ARGENTUM *Musivum* is a mass consisting of silver-like flakes, used for the colouring of plaster figures, and for other purposes, as pigment. It consists of an amalgam of equal parts of tin, bismuth, and mercury. It is to be mixed with white of eggs, or spirit varnish, and then applied to the intended work, which is afterwards to be burnished.

ARGENTUM *Vivum*, Mercury, or *Quicksilver*. See MERCURY and CHEMISTRY *Index*.

ARGESTES, is used by Vitruvius for the wind which blows from that quarter of the horizon, which is 75° from the south and westward. Ricciolus uses the term to denote the wind which blows at 22° 30' from the west towards the north, coinciding with that which is otherwise called *west-north-west*.

ARGIL, in *Ornithology*, a species of ardea. See ARDEA, ORNITHOLOGY *Index*.

ARGILLA, CLAY, in *Natural History*. See CLAY.

ARGIVI, or ARGEII, the people of Argeia or Argolis. See ARGEIA.

ARGO, in *Antiquity*, a ship or vessel celebrated among the poets; being that wherein the Argonauts, of whom Jason was the chief, made their expedition in quest of the golden fleece. Jason having happily accomplished his enterprise, consecrated the ship Argo to Neptune; or, as others say, to Minerva, in the isthmus of Corinth; where, they add, it did not remain long before it was translated into heaven, and made a constellation. The generality of authors represent the ship Argo as of a long make, resembling the modern galleys; and furnished with thirty benches of rowers. It could not, however, be of any great bulk, since the Argonauts were able to carry it on their backs from the Danube to the Adriatic sea.

ARGO *Navis*, the *Ship Argo*, in *Astronomy*, is a constellation in the southern hemisphere, whose stars, in Ptolemy's catalogue, are 45; in Tycho's 11; in the Britannic catalogue, and Sharp's Appendix, 64.

ARGOB, in *Ancient Geography*, a canton lying beyond Jordan, in the half tribe of Manasseh, and in the country of Bashan, one of the most fruitful on the other side of Jordan. In the region of Argob there were sixty cities, called *Bashan-havoth-jair*, which had very high walls and strong gates, without reckoning many villages and hamlets which were not enclosed, Deut. iii. 4. 14. and 1 Kings iv. 13. But Argob was more particularly the name of the capital city of the region of Argob, which Eusebius says was 15 miles west from Gerasa.

ARGONAUTA. See CONCHOLOGY *Index*.

ARGONAUTIC, something belonging to the Argonauts.

The Argonautic expedition is one of the greatest epochs or periods of history which Sir Isaac Newton endeavours to settle, and from thence to rectify the ancient chronology. This he shows, by several authorities, to have been one generation or about 30

years earlier than the taking of Troy, and 43 years later than the death of Solomon. See CHRONOLOGY.

Dr Bryant, however, rejects the history of the Argonautic expedition as a Grecian fable, founded indeed on a tradition derived from Egypt, and ultimately referring to Noah's preservation, &c. in the ark. But although we are not to believe all the romantic stories which poets, and even some grave historians, have told us of those famous adventurers, yet it seems unreasonable to discredit entirely the Argonautic expedition. See ARGONAUTS.

ARGONAUTICA, in *Literary History*, denotes poems on the subject and expeditions of the Argonauts. We have the *Argonautics* of Orpheus in epic verse, published by H. Stephens; the *Argonauticon* of Valerius Flaccus, in eight books of Latin heroics, in imitation of Apollonius, with respect to which Burman observes that the imitator has often surpassed the original; the *Argonautics* of Apollonius Rhodius, an heroic poem, consisting of four books, *opus*, as Quintilian calls it, *non contemnendum*.

ARGONAUTS, in *Antiquity*, a company of illustrious Greeks, who embarked along with Jason, in the ship Argo, from Colchis, with a design to obtain the golden fleece.

The occasion of this expedition is thus represented by Greek writers. Phryxus, flying with his sister Helle from the rage of their stepmother Ino, the daughter of Cadmus, went on board a ship, whose ensign was a golden ram, and sailed to Colchis, (now Mingrelia, part of Georgia). Helle was drowned by the way, in that sea which from her was called the *Hellespont*, now the *Dardanelles*. This, according to some, was the ground of the poetical fable, that a ram with a golden fleece swam away with them to Colchis; and that the Argonauts undertook their famed expedition, in order to find that fleece. But Strabo and Arrian inform us, that it was a practice of the Colchians to collect gold on Mount Caucasus by extending fleeces across the beds of the torrents; and as the water passed, the metallic particles remained entangled in the wool: hence, according to those historians, the adventure was named the *expedition of the golden fleece*. Sir Isaac Newton thinks that this expedition was really an embassy sent by the Greeks, during the intestine divisions of Egypt in the reign of Amenophis, to persuade the nations upon the coasts of the Euxine and Mediterranean seas, to take that opportunity of shaking off the yoke of Egypt, which Sesostris had laid upon them; and that fetching the golden fleece, was only a pretence to cover their true design.

But the most judicious and satisfactory account of the Argonautic expedition seems to be that given by Dr Gillies in his history of Greece. "The northern districts of Thessaly being peculiarly exposed to the dangerous fury of invaders, the petty princes of that province entered into a confederacy for their mutual defence. They assembled in spring and autumn at Thermopylæ, a place afterwards so illustrious, and then governed by Amphictyon, a descendant of Deucalion, whose name is immortalized in the Amphictyonic council. The advantages which the confederates derived from this measure, were soon perceived by their neighbours. The central states gradually acced-

Argonau-  
tica,  
Argonauts.



Argonauts. ed to their alliance; and about the middle of the 14th century before Christ, Acrisius king of Argos, and other princes of the Peloponnesus, were allowed to share the benefits and security of this useful association. See AMPHICTYONS.

"After this event, the Amphictyons appear to have long confined themselves to the original purpose of their institution. The states, whose measures were directed by this assembly found sufficient occupation in defending their own territories; and near a century elapsed, before they undertook, by common consent, any distant expedition. But it was not to be expected that their restless activity could be always exhausted in defensive war. The establishment of the Amphictyons brought together the chiefs most distinguished by birth and bravery. Glory and emulation prompted them to arms, and revenge directed those arms against the barbarians. Jason, Admetus, and other chieftans of Thessaly, having equipped a small fleet in the neighbouring harbour of Iolcus, and particularly the ship Argo of superior size and construction to any before known, were animated with a desire to visit foreign lands, to plant colonies in those parts of them that appeared most delightful, and to retort on their inhabitants the injuries which Greece had suffered from strangers. The princes of the north having proclaimed this spirited design over the central and southern provinces, the standard of enterprise and glory was speedily surrounded by the flower of the Grecian youth, who eagerly embraced this honourable opportunity to signalize their manly valour. Peleus, Tydeus, Telamon, and in general the fathers of those heroic chiefs who in the succeeding age shone with distinguished lustre in the plains of Troy, are numbered among the leaders of the Argonauts. They were accompanied by the chosen warriors, and by the venerable prophets, of their respective tribes; by an Esculapius, the admired father of the healing art; and by the divine Orpheus, whose sublime genius was worthy to celebrate the amazing series of their adventures.

"These adventures, however, have been too much adorned by the graces of poetry, to be the proper subject of historical composition. The designs of the Argonauts are veiled under the allegorical, or at least doubtful, phrase, *of carrying off the golden fleece*; which, though easily explained, if we admit the report that the inhabitants of the eastern banks of the Euxine extended fleeces of wool, in order to collect the golden particles which were carried down by the torrents from Mount Caucasus, is yet described in such various language by ancient writers, that almost every modern who examines the subject, thinks himself entitled to offer, by way of explanation, some new conjecture of his own. But in opposition to the most approved of these conjectures, we may venture to affirm, that the voyage to Colchis was not undertaken with a view to establish extensive plans of commerce, or to search for mines of gold, far less to learn the imaginary art of converting other substances into that precious metal; all such motives supposing a degree of speculation and refinement unknown in that age to the gallant but un-instructed youth of Thessaly. The real object of the expedition may be discovered by its consequences. The Argonauts fought, conquered, and plundered; they settled a colony on the shores of the Euxine;

and carried into Greece a daughter of the king of Colchis, the celebrated Medea, a princess of Egyptian extraction, whose crimes and enchantments are condemned to eternal infamy in the immortal lines of Euripides."

ARGONAUTS of *St Nicholas*, was the name of a military order instituted by Charles III. king of Naples, in the year 1382, for the advancement of navigation, or, as some say, merely for preserving amity among the nobles. They wore a collar of shells, enclosed in a silver crescent, whence hung a ship with this device, *Non credo tempori*, "I do not trust time." Hence these Argonaut knights came to be called *knights of the shell*. They received the order of St Basil, archbishop of Naples; and held their assemblies in the church of St Nicholas, their patron.

ARGOPHYLLUM, WHITE LEAF (*Forst. Nov. Gen.*): A genus of the monogynia order, belonging to the pentandria class of plants. The capsule is trilocular; the nectarium is pyramidal, pentagonal, and the length of the corolla. There is but one species, the nitidum or glossy, a native of New Caledonia. This genus has great affinity with the ivy; but differs in the nectarium, and perhaps in the fruit.

ARGOS, an ancient name of Peloponnesus; from Argos, one of the kings, (Homer, Strabo).

ARGOS, the capital, and an inland town, of Argolis or ARGEIA. It had different surnames; as *Achaicum*, from the country, or an ancient people, (Homer); *Hippium*, from its breed of horses; and *Inachium*, from the river Inachus, which runs by, or from Inachus the founder of the kingdom, whose name was also given to the river. The Argives, related, that this was one of the river gods who adjudged the country to Juno, when she contended for it with Neptune, which deity in return made their water to vanish; the reason why the Inachus flowed only after rain, and was dry in summer. The source was a spring, not copious, on a mountain in Arcadia, and the river served there as a boundary between the Argives and Mantinea.

Ancient Argos stood chiefly on a flat. The springs were near the surface; and it abounded in wells, which were said to have been invented by the daughters of Danaus. This early personage lived in the acropolis or citadel, which was named *Larissa*, and accounted moderately strong. On the ascent was a temple of Apollo on the ridge, which in the second century continued the seat of an oracle. The woman who prophesied was debarred from commerce with the male sex. A lamb was sacrificed in the night monthly; when, on tasting of the blood, she became possessed with the divinity. Farther on was a stadium, where the Argives celebrated games in honour of Neméan Jupiter and of Juno. On the top was a temple of Jupiter, without a roof, the statue off the pedestal. In the temple of Minerva there, among other curious articles, was a wooden Jupiter, with an eye more than common, having one in the forehead. This statue, it was said, was once placed in a court of the palace of Priam, who fled as a suppliant to the altar before it, when Troy was sacked. In this city was also the brazen tower in which Danaë, being confined there by her father, was despoiled by Jupiter.

Argos retains its original name and situation, standing

Argonauts  
||  
Argos.



Argos,  
Arguim.Arguim  
||  
Argus.

ing near the mountains which are the boundary of the plain, with Napoli and the sea in view before it. The shining houses are whitened with lime or plaster. Churches, mud-built cottages and walls, with gardens and open areas, are interspersed, and the town is of considerable extent. Above the other buildings towers a very handsome mosque shaded with solema cypresses; and behind is a lofty hill, brown and naked, of a conical form, the summit crowned with a neglected castle. The devastations of time and war have effaced the old city. We look in vain (says Mr Chandler) for vestiges of its numerous edifices, the theatre, the gymnasium, the temples, and monuments, which it once boasted, contending even with Athens in antiquity and in favours conferred by the gods.

ARGOS *Amphilochicum*, (Thucydides), a city of A-carnania, (Scylax, Pliny); its territory *Amphilochia*: situated on the east side of the Sinus Ambracius, (Thucydides); distant an hundred and eighty stadia to the south-east of Ambracia, (Polybius). Also called *Argia Amphilochis*, (Mela); *Amphiloci* and *Amphilochici* the people, (Stephanus). The name is from *Amphilochus*, son of *Amphiaraus*; and from *Argos*, of the name of his country, in Peloponnesus, (Thucydides).

ARGOS *Hippium*. See ARGOS in Peloponnesus, *supra*.

ARGOS *Hippium*, the ancient name of *Arpi*; but *Lampe* is a still more ancient; afterwards called *Argrippa*, and *Argippa*; built by, and the residence of, *Diomedes*, on the *Cerbalus*, (Virgil); afterwards a large and populous city, (Livy): A town of *Apulia*; now in ruins, and the place called *Arpi*.

ARGOS *Pelafgicum*, (Homer); an appellation denoting *Theffaly*; so called from the *Pelafgi*.

ARGOS *Portus*, a port of *Tuscany*, (Strabo): now *Porto Ferraro*, in the north of the island *Elba*. E. Long. 11. 30. N. Lat. 42. 35.

ARGUIM, an island on the coast of *Africa*, about sixteen miles distant from *Cape Blanco*, situated in W. Long. 16. 30. N. Lat. 20. 20. It is scarce two miles in length; notwithstanding which, it was a bone of contention for 87 years between the Portuguese, Dutch, English, and French; and, after a variety of fortune, has at last been totally abandoned.

This island was first discovered by the Portuguese in 1444, when a fleet bound to the east touched at *Arguim*, and from some little trade carried on with the natives, it was imagined that a settlement there might be of some advantage to Portugal. In consequence of this opinion, a fort was erected on the island, and the Portuguese enjoyed the peaceable possession of it till 1638. At this time, the Dutch having received a minute account of the condition of the island, resolved to attack it; and accordingly landed without molestation from the garrison, which was too weak to oppose them. The Portuguese, however, defended themselves with great intrepidity, and at last surrendered upon honourable terms. The Dutch immediately set about repairing the fortifications, and securing it in the best manner they could: however, in 1665, the fort was reduced almost to a heap of rubbish by an English squadron; but as the fortifications were totally destroyed, and only a small garrison left there, it was easily retaken by the Dutch the next year. They now redoubled their diligence in strengthening the

island, entering into alliance with Moorish chiefs, procuring a number of families to settle under protection of the fort, and giving extravagant prices for gums, in order to monopolize the gum trade. By this means the gum trade of the French Senegal Company was almost entirely destroyed; upon which they fitted out a squadron, dispossessed the Dutch, and had the island finally ceded to them by the treaty of *Nimeguen*.

Though the Dutch now seemed to be finally expelled, they resolved not to part so easily with such a valuable settlement. Under pretence of being subjects of the elector of Brandenburg, therefore, they erected one of the forts which had been demolished, and there maintained themselves in spite of the utmost endeavours of the French Company to dispossess them. Numberless were the memorials, protests, rescripts, &c. which were published on this occasion, till a new war in 1701 put an end to them. In 1717, however, the French Company having found all their remonstrances ineffectual, fitted out a new squadron; but this armament did not arrive at *Arguim* before Feb. 26. 1721. The Dutch defended themselves with such intrepidity and conduct as had almost baffled the utmost efforts of the French; but the latter having found means to draw off a Moorish chief from his allegiance, the Dutch were obliged to evacuate *Arguim*, and retire to *Portendic*, where they fortified themselves, determining to watch a favourable opportunity for recovering their settlement at *Arguim*. This was not long wanting, by means of the weakness of the garrison and the imprudence of *Duval* the French director; who having quarrelled with the Moors, was surprised, defeated, and killed by them; in consequence of which, the settlement fell again into the hands of the Dutch on the 11th of January 1722. In 1723, the Dutch were attacked by another French squadron under the command of the *Sieur Rigaudiere*. This gentleman boasted that the fort could not hold out one day; but though he prevailed so far as to get possession of the cisterns which contained the water of the besieged, he was at last shamefully repulsed, and forced to raise the siege with precipitation. The Dutch, however, did not long enjoy the possession which they had so bravely defended; for, in 1725, their fort was entirely demolished by the French under *Du Casse*, and has never since been rebuilt by any European nation.

ARGUMENT, in *Rhetoric*, and *Logic*, an inference drawn from premises, the truth of which is indisputable, or at least highly probable. See LOGIC.

ARGUMENT, in *Matters of Literature*, denotes also the abridgment or heads of a book, history, comedy, chapter, &c. See SYLLABUS.

ARGUMENTATION, the act of inventing, or framing arguments, of making inductions, and drawing conclusions. See INDUCTION, &c.

Argumentation, according to *Cicero*, is the delivering or unfolding of an argument.—The matter of argumentations is propositions; the form, their due disposition, with regard to one another, so as a conclusion may be drawn from them. See ENTHYMEME, PROPOSITION, RATIOCINATION, SORTES, SYLLOGISM, &c.

ARGUS, in *Fabulous History*, was the son of *Aristor*, and had 100 eyes, 50 of which were always open. *Juno* made choice of him to guard *Io*, whom *Jupiter* had



Argus-shell had transformed into a white heifer, but Jupiter, pitying Io for being so closely confined, lent Mercury, who, with his flute, charmed Argus to sleep, sealed up his eyes with his caduceus, and then cut off his head; when Juno, to reward his fidelity, turned him into a peacock, and placed his eyes in his tail.

*Argus-shell*, a species of porcelain shell, beautifully variegated with spots, resembling in some measure those in a peacock's tail.

ARGUTIÆ, witty and acute sayings, which commonly signify something further than what their mere words at first sight seem to import. Writers on rhetoric speak of divers species of argutiæ, viz.

*ARGUTIÆ ab alieno*, when something is said, which seems repugnant either to the nature and property of a thing, or to common custom, the laws, &c. which yet in reality is consistent therewith; or when something is given as a reason of another, which yet is not the reason of it. For instance, *Si Caius nihil didicisset, errasset minus*; again, *Aureum hoc sæculum est, quia plurimus jam auro honos venit*.

*Argutiæ ab allusione*, those wherein allusion is made to some history, fable, sentence, proverb, or the like; e. g. *Multi umbram captant et carnem amittunt*.

*Argutiæ à comparatis*, when two things are compared together, which yet at first sight appear very different from each other, but so as to make a pretty kind of simile or dissimile; e. g. *Par est pauper nihil cupiens principi omnia habenti*.

*Argutiæ à repugnantibus*, when two things meet in a subject, which yet regularly cannot be therein; or when two things are opposed to each other, yet the epithet of the one is attributed to the other, e. g. *Dum tacent clamant*.

ARGYLL, DUKES OF, See CAMPBELL.

ARGYLLSHIRE, one of the counties of Scotland, supposed to have formed the principal part of the Caledonian kingdom, when the eastern provinces of Scotland submitted to the irresistible power of the Roman empire. It is bounded on the east by the shires of Perth and Dunbarton; on the north by Inverness; on the west and south by the Irish sea and the frith of Clyde, which enter into various bays, sounds, and inlets, round the coast, and form both in the main land and the islands, many spacious and commodious harbours. This county is subdivided into the districts of Kintyre, Knapdale, Argyll Proper, Cowal, and Lorn. Within the same division are also comprehended several Hebridian islands, of which two or three are of considerable extent. Its length from south to north, between the mull of Kintyre and the point of Ardnamurchan, where it joins the shire of Inverness, is about 114 miles, and its breadth, in several places, including the isles, is 70. The inland part of the county is, in some measure, irregular, with an appendent triangle.

Similar to the other parts of the Highlands of Scotland, this county presents a very wild and horrid prospect of hills, rocks, and huge mountains, piled upon each other in a stupendous and dreadful disorder, bare, bleak, and barren to the view; or, at best covered with shaggy heath, which appears black and dismal to the eye, except in the summer, when it is variegated with an agreeable bloom of a purple colour. Hence lofty mountains, deep glens, inlets of the sea entering

far into the land, form the most striking features in the general aspect of this country. Cruacha-Ben in this country is one of the loftiest mountains in Scotland, and where this county meets the confines of Perth and Dunbarton, the mountains contiguous to Ben-Lomond are but little inferior in height to that mountain. The Loch Fine, Loch Etive, Linnhe Loch, are inlets of the sea. The district of Kintyre enters into the north channel, and is almost divided from the main land at the narrow isthmus of Tarbat. The district of Cowal is also nearly peninsulated by Loch Long on one side and Loch Fine on the other. The interior parts of the county are interspersed with a great number of small fresh water lakes. A barrenness of soil and scanty vegetation prevail chiefly on the summits of the great mountains, which exhibit great masses of stratified rocks or groups in a columnar form. Even a number of the glens are barren, and afford little pasturage, and are covered in several places with large fragments, which have been separated and precipitated from the impending rocks. On the declivities of the hills and the banks of the lakes there are, however, numerous woods interspersed, which unite with the lofty mountains to form a most romantic scene. In a run of several miles, fertility, verdure, and cultivation, reign through the valley of Glenurchay. Remains of ancient forests are still very extensive in various places, and these consist chiefly of oaks, ashes, pines, and birches. The level of the country, towards the southern parts, descends the nearest to an equality with that of the sea. The elevation of the country is highest towards the interior parts of the counties of Perth and Inverness.

The mountains and forests abound with fallow-deer, roes, stags, and all kind of wild game; and all over the sea coast the moors, the heaths, and on the lakes the wild fowl are numerous. The mountains feed an innumerable quantity of black cattle, which run wild among the hills in winter as well as summer. The circumambient sea, with its lochs, bays, and harbours, pours forth myriads of fish; and in several places of the country iron, copper, lead, and other metals and minerals have been dug out. Yet, notwithstanding these numerous local advantages, Argyllshire, as well as the other parts of the Highlands, struggles with many great obstacles in the way of improvement. The want of long leases is one of the most material. What inducement can a person have to manure or cultivate a piece of land which he may have taken, when his first work is to erect a hut for himself; and after all the disagreeable inconveniences attending it, he holds his farm, year by year, dependant on the will of his landlord? When he also reflects, that by cultivating his ground in such a manner, the rent which he was this year scarcely able to pay, may be nearly doubled the next year, how can he be able to defray the expence necessarily attending such an improvement, when he is uncertain of a competent return for his labour? It is hoped that proprietors will at length see the manifest advantage that will arise from granting long leases, both to themselves and their tenants; and, by so doing, either to encourage the tenants to build houses, by paying any expence that may remain unpaid at the end of the lease, or build houses for the tenants themselves; and,

by

Argus-shell  
||  
Argyll-  
shire.

Argyll-  
shire.



Argyllshire.

by these means, they would have surer payment of their rents, which would be augmented; their grounds would be greatly improved, and their vassals would enjoy comfort and ease. Another great obstacle to the general improvement is the rugged face of this county, which renders the great roads few in number, and the intersected roads for the purpose of conveying manure to the grounds being still in their natural rudeness. The chief branch of husbandry followed over the greatest part of this country is the management of sheep, black cattle, and goats. In former times, the ordinary animal stock consisted mostly of black cattle: but within these last 20 years a more skilful method of managing flocks of sheep than was formerly practised, having been introduced by the farmers of the low country; these have been multiplied with great attention and assiduity. Cows and oxen now form only the second considerable branch of the animal stock.

Barley, oats, and potatoes, are the principal articles of crop; and, in some places, the proper manner of tillage has been made use of, excellent manures have been laid upon the ground, and the most suitable rotation of crops has been adopted. In years of ordinary plenty it would appear, that besides affording a considerable surplus to the breweries and distilleries, the grain commonly produced in this county is a sufficient sustenance for its inhabitants. Besides the great profits arising from the iron works and the salmon fisheries, the cutting down of woods has brought much money into Argyll, and still continues to be equally beneficial to the labourer and the landlord.

\* This is the Crinan canal, which is now navigable.

When the projected canal \* shall be completed, and some villages and harbours erected, the populous county of Argyll (Mr Knox affirms) will become one of the most valuable provinces of the British empire. Washed on both sides by the sea; deeply indented by navigable lakes and bays; having an easy communication with the fishing grounds on the north Highlands, with Glasgow and the trading towns on the Clyde, with Ireland, Wales, Whitehaven, Liverpool, Bristol, and other marts on the west coast of England; we may easily conceive, that the period is at no great distance when Argyllshire will become a great commercial county. To corroborate this opinion he observes, that after a vessel gets under sail from this coast, she enters at once into the Atlantic, where she meets with no interruption till she makes the coast of America or the West Indies. The line, therefore, which nature points out for the inhabitants is that of salt-making, fishing, ship-building, freight, or the carrying trade; soap and glass-making, by means of the kelp upon their shores, and sand found upon the islands of Jura and Gigha, which is adapted for the latter.

In this district the deeds of the celebrated Fingal, whose invincible arm gave a check to the progress of the conquerors of the world, were mostly achieved. Many of the scenes of the battles of that illustrious hero and his gallant followers, which are so beautifully described by Ossian, are still pointed out, and many very ancient monuments still display the warlike spirit of its former inhabitants. In the course of the eighth and ninth centuries, Argyll, along with the neigh-

bouring isles, was conquered by the Danes and Norwegians. For five or six centuries it continued under the dominion of Norway, and during that period was under the direct administration of feudal chieftains, generally of Norwegian extraction, who each maintained an almost independent government. Along with the Hebridean isles, all the western parts of Argyll became the conquest of the Scottish monarchs in the fourteenth century. Some time after, Macdonald, the representative of this region, obtained leave from the Scottish crown to hold his possessions as a feudatory to that kingdom; but the turbulent spirit of him and his family could not remain in quietude, and therefore their rebellions were punished with forfeiture. Their estates and titles were bestowed on the Campbells; and these have ever since retained them in peace and loyalty, beloved and honoured by their country. The county of Argyll gives the title of *duke* and *earl* to the chief of this family. He likewise enjoys several other important posts under the crown, and is the chief of the Scottish nobility. His vassals are so numerous, that in former times he could on occasion bring 3000 or 4000 fighting men into the field. Argyllshire is generally peopled by this clan, and affords a great number of castles and seats belonging to gentlemen who hold of the duke, and boast themselves descended from his family. Argyllshire sends one member to parliament: it is also the seat of a provincial synod. It contains 2 royal boroughs and 49 parishes; the population of which is as follows.

Argyllshire.

Parish.	Population in 1755.	Population in 1790-1798.
1 Ardchattan	2195	2400
Ardnamurchan	5000	4542
Campbelltown	4597	8700
Craignish	769	770
Dunoon	1757	1683
5 Glassary	2751	2568
Glenorchy	1654	1869
Inverary	2751	1832
Inverchaolin	944	504
Kilbrandon	1492	2060
10 Kilcalmonell	1925	2448
Kilchrenan	1030	1124
Kilfinan	1793	1417
Killeen	2391	1911
Kilmadan	806	351
15 Kilmartin	1150	1537
Kilmore	1200	1886
Kilniver	1045	1178
Knapdale, North	1369	1009
Knapdale, South	1292	1524
20 Lismore	2812	3526
Lochgoylhead	1505	1012
Morven	1223	1764
Saddel	1369	1341
Southend	1391	1300
25 Strachur	1193	1061

ISLANDS.

Mull	Torofay	1012	1733
	Kilfinichen	1685	3002
	Kilninian	2590	3281
4 H			30 Islay



A R I		[ 610 ]	A R I	
Argyraspides    Aria.		Population in 1755.	Population in 1790—1798.	
30	Illy { Kilarow Kilchoman Kildalton }	5344	9500	
	Jura and Colonfay, &c.	1097	1858	
	Coll and Tiry	2702	3457	
	Gigha and Cara	514	614	
35	Small ifles	943	1339	
Total,		63,291	76,101 63,291	
		Increase,	12,810	

is bounded by the Indus on the east; on the south by the Great sea; by Paropamisus on the north, and by the mountains, quite to Portæ Caspiæ; on the west by the same boundaries by which Parthia is separated from Media, Caramania from Parætacene and Persia: and thus Ariana is extremely extensive.—Aria has its limits thus described by Ptolemy: On the north, some parts of Margiana and Bactriana; on the east, the Paropamisidæ; on the south the Drangiana: and Strabo says, the Arii adjoin to the Paropamisidæ on the west.

Aria  
||  
Ariano.

ARGYRASPIDES, or ARGYROSPIDES, in *Antiquity*, persons armed with silver bucklers, or bucklers silvered.

The argyraspides, according to Quintus Curtius, made the second corps of Alexander's army; the first was the phalanx.—According to Justin's account, lib. xii. cap. 7. Alexander having penetrated into India, and extended his empire as far as the ocean; for a monument of his glory, ordered the armour of his soldiers, and the housings of his horses, to be adorned with silver. And hence commanded them to be called *argyraspides*, from the Greek *argyros*, silver, and *aspis*, buckler.

By this author it should seem, that Alexander's whole army were called *argyraspides*.—After that prince's death, the argyraspides despised all other chiefs of the army, disdaining to obey any other, having borne arms under Alexander.

ARGYRIPÆ. See ARGOS *Hippium*.

ARGYRUNTUM, a maritime town of Illyria (Ptolemy, Pliny). Nor Novigrad, a town of Dalmatia. E. Long. 17. 30. N. Lat. 44. 30.

ARHUSEN, a diocese of North Jutland in Denmark, to the south of Wilburg, about 60 miles in length and 30 in breadth. It contains two capital cities, called *Arhusen* and *Rander*; besides several market towns of less note, and upwards of 300 villages. Arhusen, one of the capitals, is advantageously situated on the coast of the Baltic sea, at the mouth of the river Guda, which runs through it; and it is surrounded with forests full of game. E. Long. 10. 0. N. Lat. 56. 10.

ARIA, one of the ancient names of Thrace, (Stephanus); that is *martial*, from the character of the people, whose country Euripides calls the residence of Mars, and Sophocles his place of nativity.

ARIA, and *Ariana*, in *Ancient Geography*, whether the same or distinct countries authors are not agreed. Ptolemy has only Aria, and knows nothing about Ariana. Pliny mentions only Ariana, and says nothing about Aria; but distinguishes between the Arii and Ariani: Parthia, he says, has the Arii to the east, Caramania and the Ariani to the south; from which it is conjectured, the Ariani extended farther than the Arii, and comprised the Gedrosii and the Drangæ. Arrian has only Aria and Arii, and is silent about Ariana. But Strabo gives more extensive bounds to Ariana than to Aria, without particularly defining them; only in general he says, that Ariana begins from India, and quotes Eratosthenes; according to whom, Ariana

ARIA, called *Ariapolis*, (Strabo): Now Herat, in Chorasan, set down in an ancient map as situated on the river Arias, which probably gave name to the country Aria. Arrian calls the river *Areios*; Pliny, *Arius*; Ammian, *Arias*: now Heri, which runs by Alexandria, also called *Alexandria Arion* or *Ariorum*.

ARIADNÆA, in *Grecian Antiquity*, two festivals at Naxos, in honour of two women named *Ariadne*, One of them being the daughter of King Minos, they had, in the solemnity dedicated to her, a show of sorrow and mourning; and, in memory of her being left by Theseus near the time of child-birth, it was usual for a young man to lie down and counterfeit all the agonies of a woman in labour. This festival is said to have been first instituted by Theseus, to atone for his ingratitude to that princess.—The other *Ariadne* was thought to be of a gay and sprightly temper; and therefore her festival was observed with music and other expressions of mirth and joy.

ARIADNE, daughter of Minos king of Crete. Theseus being sent to destroy the Minotaur, Ariadne was so taken with him, that, as a testimony of her love, she gave Theseus a clue of thread to guide him out of the labyrinth. Theseus, having killed the Minotaur, carried off the Athenians he had relieved, together with Ariadne; whom, however, he afterward forsook.

ARIADNIA, in *Antiquity*. See ARIADNÆA.

ARIANA, in *Ancient Geography*, an extensive country, comprising Paropamisus, Arachosia, Drangiana, and Gedrosia, if we suppose it to reach to the sea. See ARIA.

ARIANNA, a small village six miles north-east from the city of Tunis. Here is a beautiful range of the ancient Carthaginian aqueduct, 74 feet high, supported by columns 16 feet square, and which still increased in grandeur the nearer it approached Carthage. The stones are all diamond cut. Near this spot several ancient mattamones, or subterraneous magazines for corn, have been discovered within these few years, capable of containing 100 bushels, strongly arched with large square stones. The Moors have already begun to demolish them, it being their custom to do so with every thing beautiful as soon as it comes to light.

ARIANO, a town of Italy, in the kingdom of Naples, in the Ulterior Principality, with a bishop's see. Mr Swinburne describes it as an ugly city, built upon the uneven summit of a mountain, with an extensive look-out on all sides, but exposed to every blast that blows. It does not appear to be so old as the time of the Romans; therefore may be supposed to owe its rise to the demolition of some neighbouring town, and to the advantages its situation afforded for discovery and defence. It is but a poor place, with-

out



*Arians.* out trade or manufactures; having declined ever since the desolation caused by an earthquake in 1456. It reckons about 14,000 inhabitants, and no less than 20 parishes and convents, besides an ill-endowed cathedral. The wine made here is pale, like red Champagne, which it also resembles in a certain tartness, exceedingly refreshing in hot weather. The soil lies upon a soft argillaceous stone. At a small distance to the east is a bank consisting of layers of volcanical earths, interspersed with thick strata of oyster shells.

Below the town is a convent of Dominicans, whose house, within these last hundred years, has been thrice rebuilt, having been as often thrown to the ground by earthquakes. The last and most destructive happened in 1732, fatal to all the country that lies along the eastern verge of the Apennines. In order to secure a retreat in case of future accidents, which from their situation they have every reason to expect, these fathers have constructed a small building of wood, the parts of which being joined together with strong iron chains, are contrived so as to have a proper play, and by yielding to the oscillatory motion of the earth, return easily to their equilibrium. E. Long. 15. 19. N. Lat. 41. 8.

ARIANS, followers of Arius, a presbyter of the church of Alexandria about the year 315; who maintained, that the Son of God was totally and essentially distinct from the Father; that he was the first and noblest of those beings whom God had created, the instrument by whose subordinate operation he formed the universe; and therefore inferior to the Father both in nature and dignity: also, that the Holy Ghost was not God, but created by the power of the Son.

The Arians owned that the Son was the Word, but denied that Word to have been eternal. They held, that Christ had nothing of man in him but the flesh, to which the *Λόγος* or Word was joined, which was the same as the soul in us. See *Lardner's Credibility*, &c. vol. ix. book 1. c. 69.

The Arians were first condemned and anathematized by a council at Alexandria in 320, under Alexander, bishop of that city; who accused Arius of impiety, and caused him to be expelled from the communion of the church; and afterwards by 380 fathers in the general council of Nice, assembled by Constantine in the year 325. But, notwithstanding that, it was not extinguished; on the contrary, it became the reigning religion, especially in the east, where it obtained much more than in the west. Arius was recalled from banishment by the emperor Constantine in two or three years after the council of Nice, and the laws that had been enacted against him were repealed. In the year 335, Athanasius, his zealous opponent, was deposed and banished into Gaul, and Arius and his followers were reinstated in their privileges, and received into the communion of the church. In little more than a year after this, he fell a victim to the resentment of his enemies, and died a tragical death, occasioned probably by poison, or some other violence. The Arian party found a protector in Constantius, who succeeded his father in the empire of the east; and the zeal with which he abetted them produced many animosities and tumults to the time of his death in the year 362. They underwent various revolutions, persecuting and oppressed, under succeeding emperors, according to the de-

gree of interest they had in the civil power, till at length Theodosius the Great exerted every possible effort to suppress and disperse them. *Arians.*

The Arians were divided into various sects, of which ancient writers give an account under the names of *Semi-Arians*, *Eusebeans*, *Actians*, *Eunomians*, *Acaicians*, *Pfathyrians*, and others. But they have been commonly distributed into three classes, viz. the *Genuine Arians*, *Semi-Arians*, and *Eunomians*.

Arianism was carried in the fifth century into Africa under the Vandals; and into Asia under the Goths. Italy, the Gauls, and Spain, were also deeply infected with it; and towards the commencement of the sixth century, it was triumphant in many parts of Asia, Africa, and Europe. But it sunk almost all at once, when the Vandals were driven out of Africa, and the Goths out of Italy, by the arms of Justinian. However, it revived again in Italy under the protection of the Lombards in the seventh century.

Erasmus seems to have aimed in some measure to restore Arianism at the beginning of the sixteenth century, in his Commentaries on the New Testament. Accordingly, he was reproached by his adversaries with Arian interpretations and glosses, Arian tenets, &c. To which he made little answer, save that there was no heresy more thoroughly extinct than that of the Arians: *Nulla heresis magis extincta quam Arianorum*. But the face of things was soon changed. Servetus, a Spaniard by nation, published in 1531 a little treatise against the Trinity, which once more revived the opinions of the Arians in the west. Indeed he rather showed himself a Photinian than an Arian; only that he made use of the same passages of Scripture, and the same arguments against the divinity of our Saviour, with the proper Arians.

It is true, Servetus had not, properly speaking, any disciples; but he gave occasion after his death to the forming of a new system of Arianism in Geneva, much more subtle and artful than his own, and which did not a little perplex Calvin. From Geneva the new Arians removed to Poland, where they gained considerable ground; but at length became Socinians.

The appellation *Arian* has been indiscriminately applied in more modern times, to all those who consider Jesus Christ as inferior and subordinate to the Father; and whose sentiments cannot be supposed to coincide exactly with those of the ancient Arians. Mr Whiston was one of the first divines who revived this controversy, in the beginning of the 18th century. He was followed by Dr Clarke, who published his famous book, entitled "The Scripture Doctrine of the Trinity," &c. In consequence of which, he was reproached with the title of *Semi-Arian*. He was also threatened by the convocation, and combated by argument. Dr Waterland, who has been charged with verging towards Tritheism, was one of his principal adversaries. The history of this controversy during the present century, may be found in a pamphlet, entitled, "An Account of all the considerable Books and Pamphlets that have been wrote on either Side, in the Controversy concerning the Trinity, from the Year 1712; in which is also contained an Account of the Pamphlets written this last Year, on each side, by the Dissenters, to the End of the Year 1719." Published at London 1720.



Aricina

Arillus.

ARICINA, in *Mythology*, a surname of Diana; under which appellation she was honoured in the forest Aricine, so called from Aricia a princess of the blood royal of Athens. Hippolytus, to whom this princess was married, is said to have erected a temple to Diana in this forest, where he was concealed after his resurrection by Esculapius, and to have established a priest and festivals.

ARIUS MONTANUS, a learned Spanish divine, employed by Philip II. of Spain to publish another edition of the Bible, after that of Cardinal Ximenes; which he finished with applause, and died at Seville in 1598.

ARICA, a port town of South America, in the province of Los Charcas, in Peru. It was formerly a considerable place, but the earthquakes, which are frequent here, have almost entirely ruined it; for there are no more than 150 families, which are most of them blacks, mulattoes, and Indians. Most of the houses are made with canes or reeds, set upright, and bound together with cords or thongs; and as it never rains here, they are covered only with mats, which makes the place look at a distance like a heap of ruins.

The vale of Arica is about a league wide, and six leagues long, next the sea, and is all a barren country, except the spot where the old town stood, which is divided into little meadows of clover grass, and plots for sugar canes, with a few olive and cotton trees intermixed. This vale grows narrower as it runs eastward: and a league up there is a village, where they begin to cultivate pimento or Jamaica pepper, which is planted throughout all the rest of the vale; and there are several farms, which produce nothing else, that bring in the value of 80,000 crowns yearly. The Spaniards of Peru are so used to this pepper, that they dress no provisions without it. W. Long. 70. 15. S. Lat. 18. 26.

ARICONIUM, a town of the Silures, (Antonine); now Hereford, (Camden). W. Long. 2. 42. Lat. 52. 6.

ARIDAS, a kind of taffety, manufactured in the East Indies from a shining thread which is got from certain herbs, whence they are styled *aridas of herbs*.

ARIDULLAM, in *Natural History*, a kind of zarnich found in the East Indies. See ZARNICH.

ARIES, in *Zoology*. See OVIS.

ARIES, the battering ram. See BATTERING Ram.

ARIES, in *Astronomy*, a constellation of fixed stars, drawn on the globe, in the figure of a ram. It is the first of the twelve signs of the zodiac, from which a twelfth part of the ecliptic takes its denomination.

ARILLUS, an improper term invented by Linnæus, and defined to be the proper exterior coat or covering of the seed which falls off spontaneously.

All seeds are not furnished with an arillus; in many, a dry covering, or scarf skin, supplies its place. In jasmine; hound's tongue, *cynoglossum*; cucumber; fraxinella, *diclammus*; staff tree, *celastrus*; spindle tree, *euonymus*; African spiræa, *diosma*; and the coffee tree, *coffea*; it is very conspicuous.

In the genus hound's tongue, four of these arilli or proper coats, each enfolding a single seed, are affixed to the stylus; and in this circumstance, says Linnæus, does the essence of the genus consist. In fraxinella, the arillus is common to two seeds. The

staff tree has its seeds only half involved with this cover.

The arillus is either *baccatus*, succulent, and of the nature of a berry; as in the spindle tree, *euonymus*. *Cartilagineus*, cartilaginous, or gristly; as in the African spiræa, *diosma*. *Coloratus*, coloured; as in the staff tree. *Elasticus*, endued with elasticity, for dispersing the seeds; as is remarkable in the African spiræa, *diosma*, and fraxinella. *Scaber*, rough and knotty; as in hound's tongue.

Although covered with an arillus or other dry coat, seeds are said to be naked (*semina nuda*) when they are not enclosed in any species of pericarpium or fruit vessel; as in the grasses, and the *labiati* or lipped flowers of Tournefort, which correspond to the *didyamia gymnospermia* of Linnæus. Seeds are said to be covered (*semina teſta*) when they are contained in a fruit vessel, whether capsule, pod, or pulpy pericarpium, of the apple, berry, or cherry kind: (See SEMEN). This exterior coat of the seed is, by some former writers, styled *calyptra*. See CALYPTRA.

The different skins or coverings of the seed, are adapted, say naturalists, for receiving the nutritive juices, and transmitting them within.

ARIMANIUS, the evil god of the ancient Persians. The Persian Magi held two principles; a good demon, or god, and an evil one: the first the author of all good, and the other of all evil: the former they supposed to be represented by light, and the latter by darkness, as their truest symbols. The good principle they named *Yezad* or *Yezdan*, and *Ormazd* or *Hormizda*, which the Greeks wrote *Oromazdes*; and the evil demon they called *Abriman*, and the Greeks *Arimanius*. Some of the Magians held both these principles to have been from all eternity; but this sect was reputed heterodox: the original doctrine being, that the good principle only was eternal, and the other created.—Plutarch (*De Iside et Osiride*, p. 369.) gives the following account of the Magian traditions in relation to these gods, and the introduction of evil into the world, viz. That Oromazes consisted of the most pure light, and Arimanius of darkness; and that they were at war with each other: that Oromazes created six gods; the first, the author of benevolence; the second, of truth; the third, of justice, riches, and the pleasure which attends good actions; and that Arimanius made as many, who were the authors of the opposite evils or vices: that then Oromazes, triplicating himself, removed as far from the sun as the sun is from the earth, and adorned the heaven with stars, appointing the dog star for their guardian and leader: that he also created 24 other gods, and enclosed them in an egg; but Arimanius having also made an equal number, these last perforated the egg, by which means evil and good became mixed together. However, the fatal time will come, when Arimanius, the introducer of plagues and famine, must be of necessity utterly destroyed by the former, and annihilated; then the earth being made plain and even, mankind shall live in a happy state, in the same manner, in the same political society, and using one and the same language. Theopompus writes, that, according to the Magians, the said two gods, during the space of 3000 years, alternately conquer, and are conquered; that for other 3000 years, they will

Arillus,  
Arimanius.



Arimaspi  
Arion.

will wage mutual war, fight, and destroy the works of each other, till at last Hades (or the evil spirit) shall perish, and men become perfectly happy, their bodies needing no food, nor casting any shadow, i. e. being perfectly transparent.

ARIMASPI, (Pliny), a people of Sarmatia Europea, to the south of the Montes Riphei, said by Me-la to have but one eye; a fable broached by Aristeas Proconnesius, according to Herodotus.

ARIMATEA, a town of Judea, (Evangelists); thought to be the fame with *Ramatha*, 1 Sam. i. and thus in the tribe of Ephraim, (Wells).—This place is now called *Ramla*; and is in a very ruinous state, containing nothing but rubbish within its boundaries. The aga of Gaza resides here in a Serai, the floors and walls of which are tumbling down. He maintains about one hundred horsemen, and as many Barbary soldiers, who (says Mr Volney) are lodged in an old Christian church, the nave of which is used as a stable, and in an ancient khan, which is disputed with them by the scorpions. The adjacent country is planted with lofty olive trees, disposed in quincunxes. The greatest part of them are as large as the walnut trees of France; but they are daily perishing through age, the ravages of contending factions, and even from secret mischief: for, in these countries, when a peasant would revenge himself of his enemy, he comes by night, and saws or cuts his trees close to the ground, and the wound, which he takes care to cover, draining off the sap like an issue, the olive tree languishes and dies. Amid these plantations, we meet, at every step, with dry wells, cisterns fallen in, and vast vaulted reservoirs, which prove that, in ancient times, this town must have been upwards of a league and a half in circumference. At present it scarcely contains two hundred families. The little land which is cultivated, by a few of them, belongs to the musli, and two or three persons related to him. The rest content themselves with spinning cotton, which is chiefly purchased by two French houses established there. The only remarkable antiquity at Ramla is the minoret of a ruined mosque on the road to Yafa, which is very lofty; and by an Arabic inscription appears to have been built by the Sultan Saladin.

ARIMINUM, a town of Umbria, or Romagna, at the mouth of the Ariminus, on the gulf of Venice. The seizing on it by Cæsar gave rise to the civil war. Now called *Rimini*. E. Long. 13. 30. Lat. 44. 8.

ARIOLI, in *Antiquity*, a kind of prophets, or religious conjurers, who by abominable prayers, and horrible sacrifices at the altars of idols, procured answers to their questions concerning future events. *Ibid. Orig. lib. viii. cap. 9.* These are also called *harioli*, and the operation *hariolation*. Sometimes they were denominated *aruspices* or *baruspices*. The *arioli* were distinguished by a slovenly dress, disorderly and matted beads, hair, &c.

ARION, an excellent musician and poet, inventor of dithyrambics. Periander entertained him at his court, where getting an estate, and returning to Corinth, the sailors, for lucre of his money, threw him into the sea; when, according to the poets, a dolphin, charmed with his music, took him on her back and carried him safe to shore.

ARION, an admirable horse, much more famous in

poetic history than Bucephalus in that of Alexander.

Authors speak variously of his origin, though they agree in giving him a divine one. His production is most commonly ascribed to Neptune. This god, according to fable, raised him out of the ground by a stroke of his trident: according to others, he begot him upon the body of the fury Erinny; according to others, upon that of Ceres, which he ravished in the form of a horse, the having previously assumed the form of a mare to elude his pursuit. This horse was nursed by the Nereids; and being sometimes yoked with the sea horses of Neptune to the chariot of this god, he drew him with incredible swiftness through the sea. He had this singularity in him, that his right feet resembled those of a man. Neptune gave him to Capreus king of Haliartus. Capreus made a present of him to Hercules; who mounted him when he took the city of Elis, gained the prize with him in the race against Cygnus the son of Mars near Træcena, and at last made a present of him to Adrastus. It is under this last master that Arion has signalized himself the most: he won the prize for racing at the Nemean games, which the princes who went to besiege Thebes instituted in the honour of Archemorus; and was the cause that Adrastus did not perish in this famous expedition as all the other chiefs did.

ARIOSTO Lodovico, the famous Italian poet, and author of *Orlando Furioso*, was born at the castle of Reggib in Lombardy in 1474. His father, who was major domo to Duke Hercules, lived to the extent of his fortune, so left but little at his death. Ariosto, from his childhood, showed great marks of genius, especially in poetry; and wrote a comedy in verse on the story of Pyramus and Thisbe, which his brothers and sisters played. His father being utterly unlearned, and rather regarding profit than his son's inclination, compelled him to study the civil law, in which having plodded some years to no purpose, he quitted it for more pleasing studies; yet often lamented, as Ovid and Petrarch did before him, and our own Milton since\*, that his father banished him from the Muses.

\* See his Latin poem, *Ad Patrem*.  
At the age of 24, Ariosto lost his father, and found himself perplexed with family affairs. However, in about six years he was, for his good parts, taken into the service of Don Hippolito, cardinal of Este. At this time he had written nothing but a few sonnets; but now he resolved to make a poem, and chose Bayardo's *Orlando Innamorato* for a groundwork. However, he was prevented writing for a great many years, and was chosen as a fit person to go on an embassy to Pope Julio II. where he gave such satisfaction, that he was sent again, underwent many dangers and difficulties, and at his return was highly favoured. Then, at his leisure, he again applied himself to his poem: but, soon after, he incurred the cardinal's displeasure for refusing to accompany him into Hungary; by which he was so discouraged, that he desisted writing for 14 years, even till the cardinal's death. After that, he finished by degrees, in great perfection, that which he began with great expectation. Duke Astolfo offered him great promotions if he would serve him; but preferring liberty to grandeur, he refused this and other great offers from princes and cardinals, particularly from Leo X. from all whom he received notwithstanding great presents. The duke of Ferrara delighted.

Arion,  
Ariosto.



delighted so much in his comedies, of which he wrote five, that he built a stage on purpose to have them played in his court, and enabled our poet to build himself a house in Ferrara, with a pleasant garden, where he used to compose his poems, which were highly esteemed by all the princes in Italy, who sent him many presents; but he said, "he would not sell his liberty for the best cardinal's hat in Rome." It was but a small, though convenient house: being asked, why he had not built it in a more magnificent manner, since he had given such noble descriptions of sumptuous palaces, beautiful porticos, and pleasant fountains, in his Orlando Furioso? he replied, That words were cheaper laid together than stones. Upon the door was the following inscription:

*Parva, sed apta mihi; sed nulli obnoxia, sed non  
Sordida, parva meo sed tamen æve, domus.*

Which Mr Harrington thus translates:

This house is small, but fit for me, but hurtful unto none;  
But yet not sluttish, as you see, yet paid for with mine own.

In his diet he was temperate, and so careless of dainties, that he was fit to have lived in the world when they fed upon acorns. Whether he was ever married, is uncertain. He kept company with one Alexandria, to whom, it was reported, he was married privately, and a lady Geneva, whom he silly mentions in the 24th book of his Orlando, as poets are apt to intermix with their fictions some real amours of their own. He was urged to go ambassador to Pope Clement, but would by no means accept this embassy. He translated the *Menæmi* of Plautus: and all his own comedies were so esteemed, that they were frequently acted by persons of the first quality; and when his Lena was first represented, Ferdinand of Este, afterwards marquis of Massa, so far honoured the piece as to speak the prologue. He began one of his comedies in his father's lifetime, when the following incident shows the remarkable talent he had for poetry. His father one day rebuked him sharply, charging him with some great fault; but all the while he returned him no answer. Soon after, his brother began on the same subject: but he easily refuted him, and, with strong arguments justified his own behaviour. "Why then (said his brother) did you not satisfy my father?" "In truth (said Lodovico) I was thinking of a part in my comedy; and methought my father's speech to me was so suited to the part of an old man's chiding his son, that I forgot I was concerned in it myself, and considered it only to make it a part of my play." It is also reported of Ariosto, that coming by a potter's shop, he heard him singing a slave out of his Orlando, with so bad a grace, that, out of all patience, he broke with his stick several of his pots. The potter, in a pitiful tone, asking what he meant by wronging a poor man than had never injured him? "You rascal (he replied), I have not done thee half the wrong thou hast done me: for I have broken but two or three pots of thine, not worth so many halfpence; whereas thou hast broken and mangled a stanza of mine worth a mark of gold."

Ariosto was tall, of a melancholy complexion, and so absorbed in study and meditation, that he often forgot himself. His picture was drawn by Titian in a masterly

manner. He was honoured with the laurel by the hands of the emperor Charles V. He was naturally affable, always assuming less than was his due, yet never putting up a known injury, even from his superiors. He was so fearful on the water, that, whenever he went out of a ship, he would see others go before him; and, on land, he would alight from his horse on the least apprehension of danger. He was of an amorous disposition, and left two natural sons. He enjoyed the friendship of the most eminent men of learning of his time, most of whom he mentions with great respect in the last canto of his Orlando Furioso. His constitution was but weakly, so that he was obliged to have recourse to physicians the greatest part of his life. He bore his last sickness with great resolution and serenity; and died at Ferrara the 8th of July 1533, according to Sir John Harrington, being then 59 years of age. He was interred in the church of the Benedictine monks, who, contrary to their custom, attended his funeral. He had a bust erected to him, and the following epigraph, written by himself, inscribed upon his tomb:

Ludovici Ariostii humanatur ossa  
Sub hoc marmore, seu sub hac humo, seu  
Sub quidquid voluit benignus hæres,  
Sive hærede benignior comes, seu  
Opportunus incidens viator:  
Nam scire haud potuit futura: sed nec  
Tanti erat, vacuum sibi cadaver  
Ut urnam cuperet parare.  
Vivens ista tamen sibi paravit,  
Quæ scribi voluit suo sepulchro,  
Olim si quod haberet id sepulchrum:  
Ne cum spiritus hoc brevi peractò  
Precripto spatio miscelos artus,  
Quos ægre ante reliquerat, repescet,  
Hæc et hæc cinerem huc et huc revellem  
Dum noscat proprium, diu vagetur.

ARIPO, a town on the western coast of the island of Ceylon, at the mouth of the river Sarandã. To the east of this town is a bank, where they fish for pearls. E. Long. 80. 25. N. Lat. 8. 42.

ARISBA, in *Ancient Geography*, a town of the island of Lesbos (Herodot.)—Another of Troas on the continent, in the territory and to the south-east of Abydos (Polyb.): the rendezvous of Alexander's army after the passage of the Hellespont (Arrian); a colony of the Mitylenians (Stephanus); taken and plundered by Achilles (Virgil). The residence of Axyllus, celebrated by Homer for his hospitality, which gained him the character of Friend of Man-kind.

ARISH, a Persian long measure, containing about 38 English inches.

ARISI, the Indian name for the plant which produces the rice. See ORYZA, BOTANY INDEX.

ARISTA, or ΔΩΝ, among *Botanists*, a long needle-like beard, which stands out from the hulk of a grain of corn, grass, &c.

ARISTÆUS, son of Apollo and Cyrene, whom, for the many services he had rendered to mankind by his knowledge of all profitable arts, the gods placed amongst the stars; so that he is the Aquarius in the zodiac. The resemblance of his history to that of Moses has been curiously discussed by Huetius.

ARISTANDER, a famous soothsayer under Alexander the Great, over whom he gained a wonder-  
ful



Aristar-  
chus,  
Aristides.

ful influence by the good success of his art. He had already had the same employment at the court of King Philip; and it was he who explained better than his brethren the dream that this prince had after having married Olympias.

ARISTARCHUS, a Grecian philosopher of Samos, one of the first that maintained that the earth turns upon its own centre. We are not sure of the age in which he lived; and have none of his works but a *Treatise of the greatness and distance of the Sun and Moon*, translated into Latin by Frederic Commandine, and published with Pappus's explanations in 1572.

ARISTARCHUS, a celebrated grammarian, much esteemed by Ptolemy Philometor, who committed to him the education of his son. He applied himself chiefly to criticism, and made a revival of Homer's poems, but in too magisterial a way; for such verses as he did not like he treated as spurious. He commented on other poets. Cicero and Horace made use of his name to express a very rigid critic.

ARISTIDA. See BOTANY *Index*.

ARISTIDES, surnamed the *Just*, one of the most celebrated characters of his age for purity and integrity, and cotemporary with Themistocles, was the son of Lysimachus, a man of middle rank, and born at Athens. His dispositions and temper from his youth all conjoined in anticipating that greatness to which he afterwards arose. To a firm, resolute, and placid temper, he likewise added a great contempt of dissimulation, and an utter abhorrence of every thing dishonourable. He began very early to meditate on subjects of government, and applied to his studies with the greatest assiduity. He imbibed a strong predilection for oligarchy upon becoming acquainted with the laws of Lycurgus, which excited his admiration, and gave him a distaste of the unlimited democracy then established in his native city. On the other hand, Themistocles favoured democracy; and even when at school, he is said to have been his constant antagonist on that point. A perpetual opposition to one another in all political points, whether just or unjust, was the consequence of this difference of opinion when their abilities raised them to several important stations in the state. Although it was deemed absolutely necessary at that time for a party leader to oppose all the acts of his antagonist whatsoever with the greatest vehemence, yet Aristides did not follow this practice without self-reproach. It is related, that one day having firmly opposed a proposal of Themistocles in the assembly, which in his own conscience he knew to be right, on coming out he exclaimed, "The affairs of the Athenians will never prosper, till they throw both of us into the *barathrum*," (the dungeon for condemned criminals). Aristides maintained a strict observance of justice, and when in his own opinion a friend was guilty, he would never screen him from the punishment due to his offence. Neither desirous of profit nor honour, he served his country from the purest principles of duty; and his character was so universally known, that once, when these verses of Æschylus, describing Amphiarus, were recited in the theatre,

"To be, and not to seem, is this man's maxim;

"His mind reposes on its conscious worth,

"And wants no other praise."

Aristides.

the eyes of the whole assembly were immediately directed towards Aristides, as the true picture of the idea the poet wished to delineate. When in the office of public treasurer, by convicting Themistocles and several others of making free with the public property, he raised up a party against himself; and when he gave in his own account, they, to retaliate the affront, accused him of embezzling the public stores; and it was only by the interposition of the court of Areopagus that he got himself cleared. He was, however, again elected to that office, and then, although he kept a secret account against those people concerned with him, he permitted them to plunder without reprehension. It consequently fell out that he was universally praised, his acquaintance cultivated with the greatest avidity, and interest made on all sides to continue him in office: But when the people were about to proceed to elect him again to that trust, he severely chided them, and said, "that while he had served them with fidelity he was treated with calumny, and incurred their displeasure; now that he had really violated his trust, he met with general applause, and was reckoned an excellent citizen." He then exhibited their deceits, and made all parties ashamed of the part they had acted.

Aristides was present at the battle of Marathon, fought B. C. 490, and was next in command among the Athenians to Miltiades; and there, upon that general's proposing to come to battle as soon as possible, he seconded his motion with the utmost vigour. In the field he distinguished himself with intrepidity, valour, and generosity; and being left after the battle to secure the spoils, he executed his trust with honour and fidelity, bringing all to the public account, reserving nothing for himself. He was elected to the important office of chief magistrate the year following; but by the art of Themistocles, the high authority he had attained by his merits was at length converted into an accusation against him; and he was accordingly banished by the ostracism, although a mild, often an unjust, measure in the policy of the Athenian state, for getting a temporary relief from the presence of any political influence by which they thought their independence might be injured. A circumstance which occurred on this occasion gives a very high idea of his character. A rustic citizen coming up to vote against him, although not personally acquainted with Aristides, and being himself unable to write, ordered the first person whom he met, who accidentally happened to be Aristides himself, to inscribe his name upon the shell, signifying his acquiescence in the sentence of the state. The patriot said, "Did Aristides ever injure you?" The rustic replied, "I do not so much as know him, but I am tired with everywhere hearing him called *the Just*."—Aristides, taking the shell, wrote his own name upon it, and returned it in silence to the voter. Lifting up his hands to heaven, he supplicated that the Athenians might never behold the day which should induce them to remember Aristides; and then quitted the city.

As the Persians were meditating a new invasion of Greece, he employed himself in his exile in encouraging the Greeks to defend their liberties against the invaders. The Athenians immediately, upon the approach of Xerxes, recalled Aristides, whose absence they began sincerely to regret, along with their other  
xiles,



Ariftides. exiles. At this critical moment, upon his return, he fufpended all political animofities; and upon underftanding that it was the defign of Themiftocles to fight the Perfian navy in the ftraits of Salamis, he waited on him in private, propofed an oblivion of all paff circumftances, extolled his intentions, and gave him his fincere promife to do the utmoft in his power towards effecting his defigns. Themiftocles, fome time after the battle of Salamis, acquainted the Athenians that he had formed a fcheme which, although it was of fuch a nature as forbade his public avowal of it to them, was of ineffimable advantage to the ftate. They immediately ordered that he fhould communicate it to Ariftides. It was a project for confuming the whole confederate fleet of Greece by fire, except their own fhips; and thus the entire fway of the fea would be left to the Athenian navy. Ariftides reported that nothing could be more unjuft, and at the fame time nothing more advantageous than the fcheme of Themiftocles. Upon this report, the people immediately determined to drop any further thought of it. It was equally to the honour of the Athenians that they made fuch a determination, and to Ariftides that he was made the referee on this occafion. Ariftides, before the battle of Plataea, was of confiderable fervice in perfuading his countrymen, who were elevated with their former fucceffes, to fubmit to the fuperior power of the Spartans, and in preferving peace and amity between the confederate forces. He acquitted himfelf with great valour and refolution in the engagement, and was appointed after the victory to determine a very dangerous difpute concerning the honour of the day, which he conferred upon the Plataeans, giving up the claim of the Athenians, the Lacedaemonians following his example. Upon the rebuilding of Athens, he was the firft perfon to promote a law which divided the adminiftration among the citizens at large, and enjoined that the archons, or chief magiftrates, fhould be elected out of the whole body of the people, who had fo defervedly merited the favour of the ftate.

Ariftides, upon the continuation of the war with the Perfians, was fent along with Cimon, the fon of Miltiades, to take the command of the Athenian forces in the confederate army. Their humility and meeknefs, compared with the haughty domineering temper of Paufanias, fo engaged the reft of the allies, that the fuperiority of rank was conferred upon Athens, with the joint concurrence of the other ftates. The nomination of Ariftides to lay an equal affeffment upon all the ftates for the purpofe of defraying the expence of the war, was a fignal proof of the high idea all Greece had of his integrity and juftice. The wifdom and impartiality with which he performed this commiffion gave univerfal fatisfaction. He obliged all the confederates, after this affair was terminated, folemnly to fwear to all the articles of affociation. The advice which he afterwards gave the Athenians to extend their own territories beyond their proper limits muft certainly have proceeded from fome very preffing neceffity, when he thus drew down the confequences of the perjury upon his own head. Ariftides, on Themiftocles's falling under the difpleafure of the ruling party, would not concur in a capital profecution of him; and inftead of triumphing over an old enemy, he always fpoke of him after his banifhment with the higheft refpect.

Ariftides. In that age it was common for men who had borne the higheft public offices to make no increafe to their private fortunes, but no man ever carried this difintereftednefs to fo high a pitch as Ariftides. He was indeed fo remarkably poor, that when a profecution was raifed againft Callias, a rich relation of his, the orator pleading againft him, in order to excite the indignation of his audience, made fome remarks upon his ability to affift Ariftides, and at the fame time upon the extreme indigence in which he permitted him and his family to live. Callias, in his vindication, was forced to call Ariftides to testify that he had frequently offered him confiderable fums, which he would not accept, faying, "that it better became Ariftides to glory in his poverty than Callias in his riches," which appear to have been acquired not very honourably.

This great man died about 407 years B. C. according to fome at Athens, at an advanced age; others fay at Pontus, where he was tranfacting public bufinefs. He was buried at the public expence, and his daughters received portions out of the public treafury; and a penfion and an eftate in land was beftowed on his fon Lyfimachus, in gratitude for the fignal fervices Ariftides had done his country. (*Gen. Biog.*)

ARISTIDES of Miletus, a famous Greek author, often cited by the ancients.

ARISTIDES, a very eloquent Athenian orator, who became a convert to the Chriftian religion, and about the year 124 prefented to the emperor Adrian an apology for the Chriftians.

ARISTIDES, *Ælius*, a celebrated orator, born in Myfia, about 120 years before the Chriftian era. The beft edition of his works is that of Oxford, printed in Greek and Latin, in two volumes quarto.

ARISTIDES, a painter cotemporary with Apelles, flourifhed at Thebes about the 122d Olympiad. He was the firft, according to Pliny, who expreffed character and paffion, the human mind, and its feveral emotions; but he was not remarkable for foftnefs of colouring. "His moft celebrated picture was of an infant (on the taking of a town) at the mother's breaft, who is wounded and expiring. The fenfations of the mother were clearly marked, and her fear left the child, upon failure of the milk, fhould fuck her blood." "Alexander the Great (continues the fame author) took this picture with him to Pella."

Junius (in his *Treatife de Pictura Veterum*) conjectures that the following beautiful epigram of *Æmilianus* was written on this exquisite picture:

Ελκε, ταλαν, παρα μητρος ον εν επι μαζον αμελξεις  
 Ελευσον υστατιον ναμα κατα φθιμενης.  
 Ηδη γαρ ξεφεισσι λιποπνοος αλλα τα μητρος  
 Φιλτρα και εν αιδη παιδοκομειν εργαδον.

Elegantly translated thus:

Suck, little wretch, while yet thy mother lives,  
 Suck the laft drop her fainting bofom gives!  
 She dies! her tendernes furvives her breath,  
 And her fond love is provident in death.

*Webb's Inquiry*, Dial. VII. p. 161.

ARISTIPPUS, the founder of the Cyrenaic feft of philofophy, was the fon of Aretades, and born at Cyrene in Libya. He flourifhed about the 96th Olympiad. The great reputation of Socrates induced him



Aristippus to leave his own country, and remove to Athens, that he might have the satisfaction of hearing his discourses. He was chiefly delighted with those discourses of Socrates that related the most to pleasure: which he asserted to be the ultimate end in which all happiness consists. His manner of life was agreeable to his opinion; for he indulged himself extremely in all the luxuries of dress, wine, and women. Though he had a good estate, and three country seats, yet he was the only one of the disciples of Socrates who took money for teaching; which being observed by the philosopher, he asked Aristippus, How he came to have so much? Who in reply asked him, How he came to have so little? Upon his leaving Socrates, he went to Ægina, as Athenæus informs us, where he lived with more freedom and luxury than before. Socrates sent frequent exhortations to him, in order to reclaim him; but all in vain; and with the same view he published that discourse which we find in Xenophon. Here Aristippus became acquainted with Laïs, the famous courtesan of Corinth; for whose sake he took a voyage to that city. He continued at Ægina till the death of Socrates, as appears from Plato's *Phædo*, and the epistle which he wrote upon that occasion. He returned at last into his own country Cyrene, where he professed philosophy, and instituted a sect which, as we observed above, was called the *Cyrenaic*, from the place, and by some writers the *Hedonic* or voluptuous, from its doctrines. During the height of the grandeur of Dionysius the Sicilian tyrant, a great many philosophers resorted to him; and among the rest Aristippus, who was tempted thither by the magnificence of that court. Dionysius asking him the reason of his coming, he replied, "That it was in order to give what he had, and to receive what he had not:" or, as others represent it, "That when he wanted wisdom, he went to Socrates; but now as he wanted money, he was come to him." He very soon insinuated himself into the favour of Dionysius; for being a man of a soft easy temper, he conformed himself exactly to every place, time, and person, and was a complete master of the most refined complaisance.

We have several remarkable passages concerning him during his residence at that court mentioned by Diogenes Laërtius. Dionysius, at a feast, commanded that all should put on women's purple habits, and dance in them. But Plato refused, repeating these lines:

I cannot in this gay effeminate dress  
Disgrace my manhood or my sex betray.

But Aristippus readily submitted to the command, and made this reply immediately:

—At feasts, where mirth is free,  
A sober mind can never be corrupted.

At another time, interceding with Dionysius in behalf of a friend, but not prevailing, he cast himself at his feet: being reproved by one for that excess of humility, he replied, "That it was not he who was the cause of that submission; but Dionysius, whose ears were in his feet." Dionysius showed him three beautiful courtesans, and ordered him to take his choice. Upon which he took them all three away with him, alleging that Paris was punished for preferring one to the other two: but when he had brought them to his door, he dismissed

them, in order to show that he could either enjoy or reject with the same indifference. Having desired money of Dionysius, the latter observed to him, that he had assured him a wife man wanted nothing. "Give me (says he) what I ask, and we will talk of that afterwards." When Dionysius had given it him, "Now (says he), you see I do not want." By his complaisance he gained so much upon Dionysius, that he had a greater regard for him than for all the rest of the philosophers, though he sometimes spoke with such freedom to that king, that he incurred his displeasure. When Dionysius asked, Why philosophers haunted the gates of rich men, but not rich men those of philosophers: he replied, "Because the latter know what they want, and the others not." Another time, Dionysius repeating (out of Sophocles, as Plutarch affirms, who ascribes this to Zeno) these verses,

He that with tyrants seeks for bare support,  
Enslaves himself, though free he came to court;  
he immediately answered,

He is no slave, if he be free to come.

Diocles, as Laertius informs us, related this in his *Lives of the Philosophers*; though others ascribe this saying to Plato. Aristippus had a contest with Antisthenes the Cynic philosopher; notwithstanding which, he was very ready to employ his interest at court for some friends of Antisthenes, to preserve them from death, as we find by a letter of his to that philosopher. Diogenes followed the example of his master Antisthenes in ridiculing Aristippus, and called him the *courts spaniel*.

We have many apophthegms of his preserved. To one who asked him what his son would be the better for being a scholar? "If for nothing else (said he), yet for this alone, that when he comes into the theatre, one stone will not fit upon another." When a certain person recommended his son to him, he demanded 500 drachmas; and upon the father's replying, that he could buy a slave for that sum, "Do so (said he), and then you will be master of a couple." Being reproached, because, having a suit of law depending, he fee'd a lawyer to plead for him, "Just so (said he), when I have a great supper to make, I always hire a cook." Being asked what was the difference between a wise man and a fool, he replied, "Send both of them together naked to those who are acquainted with neither of them, and then you will know." Being reproved by a certain person (who, according to Mr Stanley, was Plato) for his costly and voluptuous feasts, "I warrant you (said he), that you would not have bestowed three farthings upon such a dinner;" which the other confessing, "Why, then (said he), I find myself less indulgent to my palate than you are to your covetous humour;" or, as it is otherwise represented, "I find, that I love my belly, and you love your money." When Simus, treasurer to Dionysius, showed him his house magnificently furnished, and paved with costly marble, (for he was a Phrygian, and consequently profuse); Aristippus spilt in his face: upon which the other growing angry, "Why, truly (said he), I could not find a fitter place." His servant carrying after him a great weight of money, and being ready to sink upon the road under his



*Aristippus.* burden, he bid him throw away all that was too much for him to carry. Horace mentions this fact in his third satire of the second book :

*Quid simile isti  
Græcus Aristippus ? qui seruos projicere aurum  
In media jussit Libya, quia tardius irent  
Propter onus segnes.*

Being asked, what things were most proper for children to be instructed in ? he answered, " Those which might prove of the greatest advantage to them when they came to be men." Being reproached for going from Socrates to Dionysius, he replied, " That he went to Socrates when he wanted serious instruction, and to Dionysius for diversion." Having received money of Dionysius at the same time that Plato accepted a book only, and being reproached for it, " The reason is plain (says he), I want money, and Plato wants books." Having lost a considerable farm, he said to one who seemed excessively to compassionate his loss, " You have but one field ; I have three left : why should not I rather grieve for you ?" Plutarch, who relates this in his book, *De Tranquillitate Animi*, observes upon it, that it is very absurd to lament for what is lost, and not to rejoice for what is left. When a person told him, " That the land for his sake was lost," he replied " That it was better so, than that he should be lost for the land." Being cast by shipwreck ashore on the island of Rhodes, and perceiving mathematical schemes and diagrams drawn upon the ground, he said, " Courage, friends ; for I see the footsteps of men."

After he had lived a long time with Dionysius, his daughter Arete sent to him, to desire his presence at Cyrene, in order to take care of her affairs, since she was in danger of being oppressed by the magistrates. But he fell sick in his return home, and died at Lipara, an Eolian island. With regard to his principal opinions, like Socrates, he rejected the sciences as they were then taught, and pretended that logic alone was sufficient to teach truth and fix its bounds. He asserted, that pleasure and pain were the criterions by which we were to be determined ; that these alone made up all our passions ; that the first produced all the soft emotions, and the latter all the violent ones. The assemblage of all pleasure, he asserted, made true happiness, and that the best way to attain this was to enjoy the present moments. He wrote a great many books : particularly the history of Libya, dedicated to Dionysius ; several Dialogues ; and four books of the Luxury of the ancients. There are four epistles of his extant in the Socratic collection published by Leo Allatius.

Besides Arete his daughter, whom he educated in philosophy, Aristippus had also a son, whom he disinherited for his stupidity. Arete had a son who was named *Aristippus* from his grandfather, and had the surname of *Μητροδιδάκτος* from his mother's instructing him in philosophy. Among his auditors, besides his daughter Arete, we have an account of Æthiops of Ptolemais, and Antipater of Cyrene. Arete communicated the philosophy which she received from her father to her son Aristippus, who transmitted it to Theodorus the Atheist, who instituted the sect called *Theodorean*. Antipater communicated the philosophy of Aristippus to Epitimesdes his disciple ; Epitimesdes to

Paræbates ; Paræbates to Hegesias and Anniceris : and these two last improving it by some additions of their own, obtained the honour each of them of giving a name to the *Hegesiac* and *Annicerian* sect.

ARISTO, a Stoic philosopher, the disciple of Zeno the chief of the Stoics, flourished about 290 years before the Christian era. He differed but little from his master Zeno. He rejected logic as of no use, and natural philosophy as being above the reach of the human understanding. It is said, that being bald, the sun burnt his head ; and that this caused his death.— There is a saying of his recorded, which might render the doctrine of Aristippus less odious than it ordinarily is ; (see ARISTIPPUS). He used to say, " That a philosopher might do those of his hearers a prejudice who put a wrong interpretation upon good meanings ; as for example that the school of Aristippus might send out debauchees, and that of Zeno Cynics : " which seems to imply, that the doctrine of this philosopher never produced this effect but when it was misunderstood. He should also have added, that every teacher is therefore obliged to forbear laying down ambiguous maxims, or to prevent false glosses being put upon them.

ARISTOCRACY, a form of government where the supreme power is vested in the principal persons of the state. The word is derived from *αριστος*, *optimus*, and *κραταια*, *impero*, " I govern." The ancient writers of politics prefer the aristocratical form of government to all others. The republic of Venice is an aristocracy. Aristocracy seems to coincide with oligarchy ; which, however, is more ordinarily used to signify a corruption of an aristocratical state, where the administration is in the hands of too few, or where some one or two usurp the whole power.

ARISTOGITON, a famous Athenian, who, with Harmodius, killed Hipparchus tyrant of Athens, about 513 years before the Christian era. The Athenians erected a statue to him.

ARISTOLOCHIA, BIRTHWORT. See BOTANY *Index*.

ARISTOMENES, a general of the Messenians, renowned for his valour and virtue. See MESSENIA.

ARISTOPHANES, a celebrated comic poet of Athens. He was cotemporary with Plato, Socrates, and Euripides ; and most of his plays were written during the Peloponnesian war. His imagination was warm and lively, and his genius particularly turned to raillery. He had also great spirit and resolution ; and was a declared enemy to slavery, and to all those who wanted to oppress their country. The Athenians suffered themselves in his time to be governed by men who had no other views than to make themselves masters of the commonwealth. Aristophanes exposed the designs of these men, with great wit and severity, upon the stage. Cleon was the first whom he attacked, in his comedy of the *Equites* ; and as there was not one of the comedians who would venture to personate a man of his great authority, Aristophanes played the character himself, and with so much success, that the Athenians obliged Cleon to pay a fine of five talents, which were given to the poet. He described the affairs of the Athenians in so exact a manner, that his comedies are a faithful history of that people. For this reason, when Dionysius king of Syracuse desired

Aristocracy  
||  
Aristophanes.



Aristo-  
phanes.

to learn the state and language of Athens, Plato sent him the comedies of Aristophanes, telling him, these were the best representations thereof. He wrote above 50 comedies; but there are only 11 extant which are perfect: these are, *Plutus*, the *Clouds*, the *Frogs*, *Equites*, the *Acharnenses*, the *Wasps*, *Peace*, the *Birds*, the *Ecclesiastusæ* or *Female Orators*, the *Theſmophiazusæ* or *Priestesses of Ceres*, and *Lyſistrata*. The *Clouds*, which he wrote in ridicule of Socrates\*, is the most celebrated of all his comedies. Madame Dacier tells us, she was so much charmed with this performance, that after she had translated it, and read it over 200 times, it did not become the least tedious to her, which she could not say of any other piece; and that the pleasure which she received from it was so exquisite, that she forgot all the contempt and indignation which Aristophanes deserved for employing his wit to ruin a man, who was wisdom itself, and the greatest ornament of the city of Athens. Aristophanes having conceived some aversion to the poet Euripides, satirizes him in several of his plays, particularly in his *Frogs* and his *Theſmophiazusæ*. He wrote his *Peace* in the 10th year of the Peloponnesian war, when a treaty for 50 years was concluded between the Athenians and the Lacedemonians, though it continued but seven years. The *Acharnenses* was written after the death of Pericles and the loss of the battle in Sicily, in order to dissuade the people from intrusting the safety of the commonwealth to such imprudent generals as Lamachus. Soon after, he represented his *Aves* or *Birds*; by which he admonished the Athenians to fortify Decelæa, which he calls by a fictitious name *Nepheleococcygia*. The *Vespæ*, or *Wasps*, was written after another loss in Sicily, which the Athenians suffered from the misconduct of Chares. He wrote the *Lyſistrata* when all Greece was involved in a war; in which comedy the women are introduced debating upon the affairs of the commonwealth; when they come to a resolution, not to go to bed with their husbands till a peace should be concluded. His *Plutus*, and other comedies of that kind, were written after the magistrates had given orders that no person should be exposed by name upon the stage. He invented a peculiar kind of verse, which was called by his name, and is mentioned by Cicero in his *Brutus*; and Suidas says, that he also was the inventor of the tetrameter and octometer verse.

Aristophanes was greatly admired among the ancients, especially for the true Attic elegance of his style. The time of his death is unknown; but it is certain he was living after the expulsion of the tyrants by Thrasybulus, whom he mentions in his *Plutus* and other comedies. There have been several editions and translations of this poet. Nicodemus Frischin, a German, famous for his classical knowledge, in the 16th century, translated *Plutus*, the *Clouds*, the *Frogs*, the *Equites*, and the *Acharnenses*, into Latin verse. Quintus Septimus Florens, rendered into Latin verse the *Wasps*, the *Peace*, and *Lyſistrata*; but his translation is full of obsolete words and phrases. Madame Dacier published at Paris in 1692, a French version of *Plutus* and the *Clouds*, with critical notes, and an examination of them according to the rules of the theatre. Mr Lewis Theobald likewise translated these two comedies into English, and published them with remarks.

\* See the  
article  
Socrates.

The most noble edition of this author is that published by Ludolphus Kuster, at Amsterdam, in folio, in 1710, and dedicated to Charles Montague earl of Halifax.

Aristoteliã  
||  
Aristotle.

ARISTOTELIA, in *Antiquity*, annual feasts celebrated by the citizens of Stagyræ, in honour of Aristotle, who was born there; and in gratitude for his having procured from Alexander the rebuilding and re-peopling of that city, which had been demolished by King Philip.

ARISTOTELIAN, something that relates to the philosopher Aristotle.

ARISTOTELIAN *Philosophy*, the philosophy taught by Aristotle, and maintained by his followers. The Aristotelian is otherwise called the *Peripatetic Philosophy*. See PERIPATETICS.

ARISTOTELIANS, a sect of philosophers, otherwise called *Peripatetics*.

The Aristotelians and their dogmata prevailed for a long while in the schools and universities; even in spite of all the efforts of the Cartesians, Newtonians, and other corpuscularians. But the systems of the latter have at length gained the pre-eminence; and the Newtonian philosophy in particular is now very generally received. The principles of Aristotle's philosophy, the learned agree, are chiefly laid down in the four books *de Cælo*; the eight books of *Physical Aſcultation*, *Φυσικὴ ἀκουστικὴ*, belonging rather to logic, or metaphysics, than to physics. Instead of the more ancient systems, he introduced matter, form, and privation, as the principles of all things; but he does not seem to have derived much benefit from them in natural philosophy. His doctrines are, for the most part, so obscurely expressed, that it has not yet been satisfactorily ascertained what were his sentiments on some of the most important subjects. He attempted to refute the Pythagorean doctrine concerning the twofold motion of the earth; and pretended to demonstrate, that the matter of the heavens is ungenerated, incorruptible, and subject to no alteration: and he supposed that the stars were carried round the earth in solid orbs. The reader will find a distinct account of the logical part of his philosophy, by Dr Reid professor of moral philosophy in the university of Glasgow, and in the second volume of Lord Kames's *Sketches of the History of Man*. Mr Harris has published a commentary on his *Categories*, under the title of *Philosophical Arrangements*.

ARISTOTLE, the chief of the Peripatetic philosophers, born at Stagyræ, a small city in Macedon, in the 99th Olympiad, about 384 years before the birth of Christ. He was the son of Nicomachus, physician to Amyntas the grandfather of Alexander the Great. He lost his parents in his infancy; and Proxenes, a friend of his father's, who had the care of his education, taking but little notice of him, he quitted his studies, and gave himself up to the follies of youth. After he had spent most of his patrimony, he entered into the army: but not succeeding in this profession, he went to Delphos to consult the oracle what course of life he should follow; when he was advised to go to Athens and study philosophy. He accordingly went thither about 18 years of age, and studied under Plato till he was 37. By this time he had spent his whole fortune; and we are told that he got his living by selling powders, and some receipts in pharmacy. He



Aristotle. followed his studies with most extraordinary diligence, so that he soon surpassed all in Plato's school. He ate little, and slept less; and that he might not oversleep himself, Diogenes Laërtius tells us, that he lay always with one hand out of the bed, having a ball of brass in it, which, by its falling into a basin of the same metal, awaked him. We are told, that Aristotle had several conferences with a learned Jew at Athens, and that by this means he instructed himself in the sciences and religion of the Egyptians, and thereby saved himself the trouble of travelling into Egypt. When he had studied about 15 years under Plato, he began to form different tenets from those of his master, who became highly piqued at his behaviour. Upon the death of Plato, he quitted Athens; and retired to Atna, a little city of Mysia, where his old friend Hermias reigned. Here he married Pythias, the sister of this prince, whom he is said to have loved so passionately, that he offered sacrifice to her. Some time after, Hermias having been taken prisoner by Meranion the king of Persia's general, Aristotle went to Mitylene the capital of Lesbos, where he remained till Philip king of Macedon having heard of his great reputation, sent for him to be tutor to his son Alexander, then about 14 years of age: Aristotle accepted the offer; and in eight years taught him rhetoric, natural philosophy, ethics, politics, and a certain sort of philosophy, according to Plutarch, which he taught nobody else. Philip erected statues in honour of Aristotle; and for his sake rebuilt Stagira, which had been almost ruined by the wars.

The last fourteen years of his life he spent mostly at Athens, surrounded with every assistance which men and books could afford him for prosecuting his philosophical inquiries. The glory of Alexander's name, which then filled the world, ensured tranquillity and respect to the man whom he distinguished as his friend: but after the premature death of that illustrious protector, the invidious jealousy of priests and sophists inflamed the malignant and superstitious fury of the Athenian populace; and the same odious passions which proved fatal to the offensive virtue of Socrates, fiercely assailed the fame and merit of Aristotle. To avoid the cruelty of persecution, he secretly withdrew himself to Chalcis in Euboea. This measure was sufficiently justified by a prudent regard to his personal safety; but lest his conduct should appear unmanly, when contrasted with the firmness of Socrates in a similar situation, he condescended to apologize for his flight, by saying, that he was unwilling to afford the Athenians a second opportunity "to sin against philosophy." He seems to have survived his retreat from Athens only a few months; vexation and regret probably ended his days.

Besides his treatises on philosophy, he wrote also on poetry, rhetoric, law, &c. to the number of 400 treatises, according to Diogenes Laërtius; or more, according to Francis Patricius of Venice. An account of such as are extant, and of those said to be lost, may be seen in Fabricius's *Bibliotheca Græca*. He left his writings with Theophrastus, his beloved disciple and successor in the Lyceum; and forbade that they should ever be published. Theophrastus, at his death, trusted them to Neleus, his good friend and disciple; whose heirs buried them in the ground at Scepsis, a town of Troas, to secure them from the king of Pergamus,

who made great search everywhere for books to adorn his library. Here they lay concealed 160 years, until, being almost spoiled, they were sold to one Apellicon, a rich citizen of Athens. Sylla found them at this man's house, and ordered them to be carried to Rome. They were some time after purchased by Tyrannion a grammarian: and Andronicus of Rhodes having bought them of his heirs, was in a manner the first restorer of the works of this great philosopher; for he not only repaired what had been decayed by time and ill keeping, but also put them in a better order, and got them copied. There were many who followed the doctrine of Aristotle in the reigns of the 12 Cæsars, and their numbers increased much under Adrian and Antoninus: Alexander Aphroditus was the first professor of the Peripatetic philosophy at Rome, being appointed by the emperors Marcus Aurelius and Lucius Verus; and in succeeding ages the doctrine of Aristotle prevailed among almost all men of letters, and many commentaries were written upon his works.

The first doctors of the church disapproved of the doctrine of Aristotle, as allowing too much to reason and sense; but Anatolius bishop of Laodicea, Didymus of Alexandria, St Jerome, St Augustin, and several others, at length wrote and spoke in favour of it. In the sixth age, Boethius made him known in the west, and translated some of his pieces into Latin. But from the time of Boethius to the eighth age, Joannes Damascenus was the only man who made an abridgment of his philosophy, or wrote any thing concerning him. The Grecians, who took great pains to restore learning in the 11th and following ages, applied much to the works of this philosopher, and many learned men wrote commentaries on his writings: amongst these were Alfarabius, Algazel, Avicenna, and Averroes. They taught his doctrine in Africa, and afterwards at Cordova in Spain. The Spaniards introduced his doctrine into France, with the commentaries of Averroes and Avicenna; and it was taught in the university of Paris, until Amauri having supported some particular tenets on the principles of this philosopher, was condemned of heresy, in a council held there in 1210, when all the works of Aristotle that could be found were burnt, and the reading of them forbidden under pain of excommunication. This prohibition was confirmed, as to the physics and metaphysics, in 1215, by the pope's legate; though at the same time he gave leave for his logic to be read, instead of St Augustin's used at that time in the university. In the year 1265, Simon, cardinal of St Cecil, and legate from the holy see, prohibited the reading of the physics and metaphysics of Aristotle. All these prohibitions, however, were taken off in 1366; for the cardinals of St Mark and St Martin, who were deputed by Pope Urban V. to reform the university of Paris, permitted the reading of those books which had been prohibited: and in the year 1448, Pope Stephen approved of all his works, and took care to have a new translation of them into Latin.

ARISTOXENUS, one of the most ancient musical writers, was born at Tarentum, a city in *Magna Græcia*, now Calabria. He was the son of a musician, and it appears that he lived about the time of Alexander the Great and his first successors. His *Harmouics*



*Aristoxenus.* *monics* in three books, all that are come down to us, together with Ptolemy's Harmonics, were first published by Gogavinus, but not very correctly, at Venice, 1562, in 4to, with a Latin version. John Meursius next translated the three books of Aristoxenus into Latin, from the MS. of Jos. Scaliger; but according to Meibomius, very negligently. With these he printed at Leyden, 1616, 4to, Nicomachus and Alypius, two other Greek writers on music. After this, Meibomius collected these musical writers together; to which he added Euclid, Bacchius senior, Aristides Quintilianus; and published the whole with a Latin version and notes, from the elegant press of Elzevir, Amst.

1652. The learned editor dedicates these ancient musical treatises to Christina queen of Sweden. Aristoxenus is said by Suidas to have written 452 different works, among which those on music were the most esteemed; yet his writings on other subjects are very frequently quoted by ancient authors, notwithstanding Cicero and some others say that he was a bad philosopher, and had nothing in his head but music. The titles of several of the lost works of Aristoxenus, quoted by Athenæus and others, have been collected by Meursius in his notes upon this author, by Tonsius and Menage, all which Fabricius has digested into alphabetical order.

*Aristoxenus.*

## A R I T H M E T I C

**I**S a science which explains the properties of numbers, and shows the method or art of computing by them.

*History of Arithmetic.*

AT what time this science was first introduced into the world, we can by no means determine. That some part of it, however, was coeval with the human race is absolutely certain. We cannot conceive how any man endowed with reason can be without some knowledge of numbers. We are indeed told of nations in America who have no word in their language to express a greater number than three; and this they call *patarrarorincouroac*: but that such nations should have no idea of a greater number than this, is absolutely incredible. Perhaps they may compute by threes, as we compute by tens; and this may have occasioned the notion that they have no greater number than three.

But though we cannot suppose any nation, or indeed any single person, ever to have been without some knowledge of the difference between greater and smaller numbers, it is possible that mankind may have subsisted for a considerable time without bringing this science to any perfection, or computing by any regular scale, as 10, 60, &c. That this, however, was very early introduced into the world, even before the flood, we may gather from the following expression in Enoch's prophecy, as mentioned by the apostle Jude: "Behold, the Lord cometh with *ten thousands* of his saints." This shows, that even at that time men had ideas of numbers as high as we have at this day, and computed them also in the same manner, namely by tens. The directions also given to Noah concerning the dimensions of the ark, leave us no room to doubt that he had a knowledge of numbers, and of measures likewise. When Rebekah was sent away to Isaac, Abraham's son, her relations wished she might be the mother of *thousands of millions*; and if they were totally unacquainted with the rule of multiplication, it is difficult to see how such a wish could have been formed.

It is probable, therefore, that the four fundamental rules of Arithmetic have always been known to some nation or other. No doubt, as some nations, like the Europeans formerly, and the Africans and Americans

now, have been immersed in the most abject and deplorable state of ignorance, they might remain for some time unacquainted with numbers, except such as they had immediate occasion for; and, when they came afterwards to improve, either from their own industry, or hints given by others, might fancy that they themselves, or those from whom they got the hints, had invented what was known long before. The Greeks were the first European nation among whom arithmetic arrived at any degree of perfection. M. Goguet is of opinion, that they first used pebbles in their calculations: a proof of which he imagines is, that the word *ψηφισμός*, which comes from *ψηφος*, a little stone, or flint, among other things, signifies *to calculate*. The same, he thinks, is probable of the Romans; and derives the word *calculation* from the use of little stones (*calculi*) in their first arithmetical operations.

If this method, however, was at all made use of, it must have been but for a short time, since we find the Greeks very early made use of the letters of the alphabet to represent their numbers. The 24 letters of their alphabet taken according to their order, at first denoted the numbers 1, 2, 3, 4, 5, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 100, 200, 300, 400, 500, 600, 700, and 800; to which they added the three following, ς, β, Δ, to represent 6, 90, and 900. The difficulty of performing arithmetical operations by such marks as these may easily be imagined, and is very conspicuous from Archimedes's treatise concerning the dimensions of a circle.

The Romans followed a like method; and besides characters for each rank of classes, they introduced others for five, fifty, and five hundred. Their method is still used for distinguishing the chapters of books, and some other purposes. Their numeral letters and values are the following:

I	V	X	L	C	D	M
One,	five,	ten,	fifty,	one hundred,	five hundred,	one thousand.

Any number, however great, may be represented by repeating and combining these according to the following rules:

1st, When the same letter is repeated twice, or oftener, its value is represented as often. Thus II signifies two; XXX thirty, CC two hundred.

2d. When a numeral letter of lesser value is placed after one of greater, their values are added: thus XI signifies



signifies eleven, LXV sixty-five, MDCXXXVIII one thousand six hundred and twenty-eight.

3d, When a numeral letter of lesser value is placed before one of greater, the value of the lesser is taken from that of the greater: thus IV signifies four, XL forty, XC ninety, CD four hundred.

Sometimes IO is used instead of D for 500, and the value is increased ten times by annexing O to the right hand.

Thus IO signifies 500. Also CIO is used for 1000  
 IOO            5000            CCIOO    for    10000  
 IOOO          50000          CCCIOOO for 100000

Sometimes thousands are represented by drawing a line over the top of the numeral,  $\overline{V}$  being used for five thousand,  $\overline{L}$  for fifty thousand,  $\overline{CC}$ , two hundred thousand.

4  
Sexagesimal Arith-  
metic.

About the year of Christ 200, a new kind of arithmetic, called *sexagesimal*, was invented, as is supposed, by Claudius Ptolemæus. The design of it was to remedy the difficulties of the common method, especially with regard to fractions. In this kind of arithmetic, every unit was supposed to be divided into 60 parts, and each of these into 60 others, and so on: hence any number of such parts were called *sexagesimal fractions*; and to make the computation in whole numbers more easy, he made the progression in these also sexagesimal. Thus from one to 59 were marked in the common way: then 60 was called a *sexagesima prima*, or first sexagesimal integer, and had one single dash over it; so 60 was expressed thus I'; and so on to 59 times 60, or 3540, which was thus expressed LIX'. He now proceeded to 60 times 60, which he called a *sexagesima secunda*, and was thus expressed I''. In like manner, twice 60 times 60, or 7200, was expressed by II''; and so on till he came to 60 times 3600, which was a third sexagesimal, and expressed thus, III''. If any number less than 60 was joined with these sexagesimals, it was added in its proper characters without any dash; thus I'XV represented 60 and 15, or 75; I'VXXXV is four times 60 and 25, or 265; X''II'XV, is ten times 3600, twice 60 and 15, or 36, 135, &c. Sexagesimal fractions were marked by putting the dash at the foot, or on the left hand of the letter: thus I, or 'I denoted  $\frac{1}{60}$ ; I,, or ''I,  $\frac{1}{3600}$ , &c.

5  
Indian Characters,  
when brought  
into use.

The most perfect method of notation, which we now use, came into Europe from the Arabians, by the way of Spain. The Arabs, however, do not pretend to be the inventors of them, but acknowledge that they received them from the Indians. Some there are indeed, who contend that neither the Arabs nor the Indians were the inventors, but that they were found out by the Greeks. But this is by no means probable; as Maximus Planudes, who lived towards the close of the 13th century, is the first Greek who makes use of them: and he is plainly not the inventor; for Dr Wallis mentions an inscription on a chimney in the parsonage house of Helendon in Northamptonshire, where the date is expressed by M<sup>o</sup> 133, instead of 1133. Mr Luffkin furnishes a still earlier instance of their use, in the window of a house, part of which is a Roman wall, near the market place in Colchester; where between two carved lions stands an escutcheon with the figures 1090. Dr Wallis is of opinion that

these characters must have been used in England at least as long ago as the year 1050, if not in ordinary affairs, at least in mathematical ones, and in astronomical tables. How these characters came to be originally invented by the Indians we are entirely ignorant.

The introduction of the Arabian characters in notation did not immediately put an end to the sexagesimal arithmetic. As this had been used in all the astronomical tables, it was for their sakes retained for a considerable time. The sexagesimal integers went first out, but the fractions continued till the invention of decimals.

The oldest treatises extant, upon the theory of arithmetic, are the seventh, eighth, and ninth books of Euclid's Elements, where he treats of proportion and of prime and composite numbers; both of which have received improvements since his time, especially the former. The next, of whom we know any thing, is Nicomachus the Pythagorean, who wrote a treatise of the theory of arithmetic, consisting chiefly of the distinctions and divisions of numbers into classes, as plain, solid, triangular, quadrangular, and the rest of the figurate numbers as they are called, numbers odd and even, &c. with some of the more general properties of the several kinds. This author is, by some, said to have lived before the time of Euclid; by others, not long after. His arithmetic was published at Paris in 1538. The next remarkable writer on this subject is Boethius, who lived at Rome in the time of Theodoric the Goth. He is supposed to have copied most of his works from Nicomachus.

From this time no remarkable writer on arithmetic appeared till about the year 1200, when Jordanus of Namur wrote a treatise on this subject, which was published and demonstrated by Joannes Faber Stapulensis in the 15th century, soon after the invention of printing. The same author also wrote upon the new art of computation by the Arabic figures, and called this book *Algorismus Demonstratus*. Dr Wallis says, this manuscript is in the Savillian library at Oxford, but it hath never yet been printed. As learning advanced in Europe, so did the knowledge of numbers; and the writers on arithmetic soon became innumerable. About the year 1464, Regiomontanus, in his triangular tables, divided the radius into 10,000 parts, instead of 60,000; and thus tacitly expelled the sexagesimal arithmetic. Part of it, however, still remains in the division of time, as of an hour into 60 minutes, a minute into 60 seconds, &c. Ramus in his arithmetic, written about the year 1550, and published by Lazarus Schonerus in 1586, used decimal periods in carrying on the square and cube roots to fractions. The same had been done before by our countrymen Buckley and Record; but the first who published an express treatise on decimals was Simon Stevinus, about the year 1582. As to the circulating decimals, Dr Wallis is the first who took much notice of them. He is also the author of the *arithmetic of infinites*, which has been very usefully applied to geometry. The greatest improvement, however, which the art of computation ever received, is the invention of logarithms. The honour of this invention is unquestionably due to Baron Napier of Merchiston in Scotland, about the end of the 16th or beginning of the



Notation  
and Numeration.

Numeration.

the 17th century. By these means arithmetic has advanced to a degree of perfection which the ancients could never have imagined possible, much less hoped to attain; and we believe it may now be reckoned one of those few sciences which have arrived at their utmost height, and which is in its nature capable of little further improvement.

fions, with superior advantage; and the principles of arithmetic will appear in their full extent, if the student can adapt them to any scale whatever: thus, if eight were the scale, 6 times 3 would be two classes, and two units, and the number 18 would then be represented by 22. If 12 were the scale, 5 times 9 would be three classes and nine units, and 45 would be represented by 39, &c.

CHAP. I. NOTATION AND NUMERATION.

7

THE first elements of arithmetic are acquired during our infancy. The idea of one, though the simplest of any, and suggested by every single object, is perhaps rather of the negative kind, and consists partly in the exclusion of plurality, and is not attended to till that of number be acquired. Two is formed by placing one object near another; three, four, and every higher number, by adding one continually to the former collection. As we thus advance from lower numbers to higher, we soon perceive that there is no limit to this increasing operation; and that, whatever number of objects be collected together, more may be added, at least, in imagination; so that we can never reach the highest possible number, nor approach near it. As we are led to understand and add numbers by collecting objects, so we learn to diminish them by removing the objects collected; and if we remove them one by one, the number decreases through all the steps by which it advanced, till only one remain, or none at all. When a child gathers as many stones together as suits his fancy, and then throws them away, he acquires the first elements of the two capital operations in arithmetic. The idea of numbers, which is first acquired by the observation of sensible objects, is afterwards extended to measures of space and time, affections of the mind, and other immaterial qualities.

It is proper, whatever number of units constitutes a class of the lower rank, that the same number of each class should make one of the next higher. This is observed in our arithmetic, ten being the universal scale: but it is not regarded in the various kinds of monies, weights, and the like, which do not advance by any universal measure; and much of the difficulty in the practice of arithmetic arises from that irregularity.

Small numbers are most easily apprehended: a child soon knows what two and what three is; but has not any distinct notion of seventeen. Experience removes this difficulty in some degree; as we become accustomed to handle larger collections, we apprehend clearly the number of a dozen or a score; but perhaps could hardly advance to an hundred without the aid of classical arrangement, which is the art of forming so many units into a class, and so many of these classes into one of a higher kind, and thus advancing through as many ranks of classes as occasion requires. If a boy arrange an hundred stones in one row, he would be tired before he could reckon them; but if he placed them in ten rows of ten stones each, he will reckon an hundred with ease; and if he collect ten such parcels, he will reckon a thousand. In this case, ten is the lowest class, a hundred is a class of the second rank, and a thousand is a class of the third rank.

As higher numbers are somewhat difficult to apprehend, we naturally fall on contrivances to fix them in our minds, and render them familiar: but notwithstanding all the expedients we can fall upon, our ideas of high numbers are still imperfect, and generally far short of the reality; and though we can perform any computation with exactness, the answer we obtain is often incompletely apprehended.

It may not be amiss to illustrate, by a few examples, the extent of numbers which are frequently named without being attended to. If a person employed in telling money reckon an hundred pieces in a minute, and continue at work ten hours each day, he will take seventeen days to reckon a million; a thousand men would take 45 years to reckon a billion. If we supposed the whole earth to be as well peopled as Britain, and to have been so from the creation, and that the whole race of mankind had constantly spent their time in telling from a heap consisting of a quadrillion of pieces, they would hardly have yet reckoned the thousandth part of that quantity.

There does not seem to be any number naturally adapted for constituting a class of the lowest, or any higher rank, to the exclusion of others. However, as ten has been universally used for this purpose by the Hebrews, Greeks, Romans, and Arabians, and by all nations who have cultivated this science, it is probably the most convenient for general use. Other scales, however, may be assumed, perhaps on some occa-

All numbers are represented by the ten following characters.

1 2 3 4 5 6 7 8 9 0  
One, two, three, four, five, six, seven, eight, nine, cypher.

The nine first are called *significant figures*, or *digits*; and sometimes represent units, sometimes tens, hundreds, or higher classes. When placed singly, they denote the simple numbers subjoined to the characters. When several are placed together, the first or right-hand figure only is to be taken for its simple value: the second signifies so many tens, the third so many hundreds, and the others so many higher classes, according to the order they stand in. And as it may sometimes be required to express a number consisting of tens, hundreds, or higher classes, without any units or classes of a lower rank annexed; and as this can only be done by figures standing in the second, third, or higher place, while there are none to fill up the lower ones; therefore an additional character or cypher (0) is necessary, which has no signification when placed by itself, but serves to supply the vacant places, and bring the figures to their proper station.

The following table shows the names and divisions of the classes.



8.	4.	3.	7.	9.	2.	8.	2.	5.	6.	4.	7.	3.	8.	9.	7.	2.	6.	4.	5.
TRILLIONS	Hundred thousand of billions	Ten thousand of billions	Thousand billions	Hundred billions	Ten billions	BILLIONS.	Hundred thousand of millions	Ten thousand of millions	Thousand millions	Hundred millions	Ten millions	MILLIONS.	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Units	

The first six figures from the right hand are called the *unit period*, the next six the *million period*, after which the *trillion*, *quadrillion*, *quintillion*, *sextillion*, *septillion*, *octillion*, and *nonillion* periods follow in their order.

It is proper to divide any number, before we reckon it, into periods and half periods, by different marks. We then begin at the left hand, and read the figures in their order, with the names of their places, from the table. It writing any number, we must be careful to mark the figures in their proper places, and supply the vacant places with cyphers.

As there are no possible ways of changing numbers, except by enlarging or diminishing them according to some given rule, it follows, that the whole art of arithmetic is comprehended in two operations, *Addition* and *Subtraction*. However, as it is frequently required to add several equal numbers together, or to subtract several equal ones from a greater, till it be exhausted, proper methods have been invented for facilitating the operation in these cases, and distinguished by the names of *Multiplication* and *Division*; and these four rules are the foundation of all arithmetical operations whatever.

As the idea of number is acquired by observing several objects collected, so is that of fractions by observing an object divided into several parts. As we sometimes meet with objects broken into two, three, or more parts, we may consider any or all of these divisions promiscuously, which is done in the doctrine of vulgar fractions, for which a chapter will be allotted. However, since the practice of collecting units into parcels of tens has prevailed universally, it has been found convenient to follow a like method in the consideration of fractions, by dividing each unit into ten equal parts, and each of these into ten smaller parts; and so on. Numbers divided in this manner are called *Decimal Fractions*.

## CHAP. II. ADDITION.

**ADDITION** is that operation by which we find the amount of two or more numbers. The method of doing this in simple cases is obvious, as soon as the meaning of number is known, and admits of no illustration. A young learner will begin at one of the numbers, and reckon up as many units separately as there are in the other, and practice will enable him to do it at once. It is impossible, strictly speaking, to add more than two numbers at a time. We must first find the sum of the first and second; then we add the third to that number; and so on. However, as the

several sums obtained are easily retained in the memory, it is neither necessary nor usual to mark them down. When the numbers consist of more figures than one, we add the units together, the tens together, and so on. But if the sum of the units exceed ten, or contain ten several times, we add the number of tens it contains to the next column, and only set down the number of units that are over. In like manner we carry the tens of every column to the next higher. And the reason of this is obvious from the value of the places; since an unit, in any higher place, signifies the same thing as ten in the place immediately lower.

*Example.*

**RULE.** "Write the numbers distinctly, 346863  
 "units under units, tens under tens; and 876734  
 "so on. Then reckon the amount of the 123467  
 "right-hand column. If it be under ten, 34213  
 "mark it down. If it exceed ten, mark 712316  
 "the units only, and carry the tens to the 438987  
 "next place. In like manner, carry the 279654  
 "tens of each column to the next, and mark  
 "down the full sum of the left-hand column." 3092234  
 24433

As it is of great consequence in business to perform addition readily and exactly, the learner ought to practice it till it become quite familiar. If the learner can readily add any two digits, he will soon add a digit to a higher number with equal ease. It is only to add the unit place of that number to the digit; and, if it exceed ten, it raises the amount accordingly. Thus, because 8 and 6 is 14, 48 and 6 is 54. It will be proper to mark down under the sums of each column, in a small hand, the figure that is carried to the next column. This prevents the trouble of going over the whole operation again, in case of interruption or mistake. If you want to keep the account clean, mark down the sum and figure you carry on a separate paper, and, after revising them, transcribe the sum only. After some practice, we ought to acquire the habit of adding two or more figures at one glance. This is particularly useful when two figures which amount to 10, as 6 and 4, or 7 and 3, stand together in the column.

Every operation in arithmetic ought to be revised, to prevent mistakes; and as one is apt to fall into the same mistake, if he revise it in the same manner he performed it, it is proper either to alter the order, or else to trace back the steps by which the operation advanced, which will lead us at last to the number we began with. Every method of proving accounts may be referred to one or other of these heads.

1st, Addition may be proven by any of the following methods: Repeat the operation, beginning at the top of the column, if you began at the foot when you wrought it.

2d, Divide the account into several parts; add these separately, and then add the sums together. If their amount correspond with the sum of the account, when added at once, it may be presumed right. This method is particularly proper when you want to know the sums of the parts, as well as that of the whole.

3d, Subtract the numbers successively from the sum; if the account be right, you will exhaust it exactly, and find no remainder.

When



**Addition.** When the given number consists of articles of different value, as pounds, shillings, and pence, or the like, which are called *different denominations*, the operations in arithmetic must be regulated by the value of the articles. We shall give here a few of the most useful tables for the learner's information.

der, if any, under the column. For example, if the sum of a column of pence be 43, which is three shillings and seven pence, mark 7 under the pence column, and carry 3 to that of the shillings.

**Addition.**

Note 3. Some add the lower denominations after the following method: when they have reckoned as many as amounts to one of the higher denomination, or upwards, they mark a dot, and begin again with the excess of the number reckoned above the value of the denomination. The number of dots shows how many are carried, and the last reckoned number is placed under the column.

- |   |                                |
|---|--------------------------------|
| I. <i>Sterling Money.</i>                   | II. <i>Avoirdupois Weight.</i> |
| 4 Farthings = 1 penny, marked d.            | 16 Drams = 1 ounce, oz.        |
| 12 Pence = 1 shilling, s.                   | 16 Ounces = 1 pound, lb.       |
| 20 Shillings = 1 pound, L.                  | 28 Pound = 1 quarter, qr.      |
| Also, 6s. 8d. = 1 noble                     | 4 Quart. = 1 hun. wght, C.     |
| 10s. = 1 angel                              | 20 Hun. weight = 1 ton, T.     |
| 13s. 4d. or two thirds of a pound = 1 merk. |                                |

Scots money is divided in the same manner as sterling, and has one twelfth of its value. A pound Scots is equal to 1s. 8d. sterling, a shilling Scots to a penny sterling, and a penny Scots to a twelfth part of a penny sterling; a mark Scots is two thirds of a pound Scots, or  $13\frac{1}{3}$  sterling.

- |   |                                 |
|---|---------------------------------|
| III. <i>Troy Weight.</i>                              | IV. <i>Apothecaries Weight.</i> |
| 20 Mites = 1 grain, gr.                               | 20 Grains = 1 scruple, ℥        |
| 24 Grains = 1 pen. w <sup>t</sup> , dw <sup>t</sup> . | 3 Scruples = 1 dram, ℥          |
| 20 Penny w <sup>ts</sup> = 1 ounce, oz.               | 8 Drams = 1 ounce, ℥            |
| 12 Ounces = 1 pound, lib.                             | 12 Ounces = 1 pound, lb         |

- |                                |                               |
|--------------------------------|-------------------------------|
| V. <i>English Dry Measure.</i> | VI. <i>Scots Dry Measure.</i> |
| 2 Pints = 1 quart              | 4 Lippies = 1 peck            |
| 4 Quarts = 1 gallon            | 4 Pecks = 1 firloft           |
| 2 Gallons = 1 peck             | 4 Firlofts = 1 boll           |
| 4 Pecks = 1 bushel             | 16 Bolls = 1 chaldre          |
| 8 Bushels = 1 quarter          |                               |

- |  |                                  |
|--|----------------------------------|
| VII. <i>English Land Measure.</i>              | VIII. <i>Scots Land Measure.</i> |
| $30\frac{1}{4}$ Square yards = 1 pole or perch | 36 Square ells = 1 fall          |
| 40 Poles = 1 rood                              | 40 Falls = 1 rood                |
| 4 Roods = 1 acre                               | 4 Roods = 1 acre                 |

- |                               |                           |
|-------------------------------|---------------------------|
| IX. <i>Long Measure.</i>      | X. <i>Time.</i>           |
| 12 Inches = 1 foot            | 60 Seconds = 1 minutes    |
| 3 Feet = 1 yard               | 60 Minutes = 1 hour       |
| $5\frac{1}{2}$ Yards = 1 pole | 24 Hours = 1 day          |
| 40 Poles = 1 furlong          | 7 Days = 1 week           |
| 8 Furlongs = 1 mile           | 365 Days = 1 year         |
| 3 Miles = 1 league            | 52 Weeks & 1 day = 1 year |

**RULE for compound Addition.** "Arrange like quantities under like, and carry according to the value of the higher place."

Note 1. When you add a denomination, which contains more columns than one, and from which you carry to the higher by 20, 30, or any even number of tens, first add the units of that column, and mark down their sum, carrying the tens to the next column; then add the tens, and carry to the higher denomination, by the number of tens that it contains of the lower. For example, in adding shillings, carry by 10 from the units to the tens, and by 2 from the tens to the pounds.

Note 2. If you do not carry by an even number of tens, first find the complete sum of the lower denomination, then inquire how many of the higher that sum contains, and carry accordingly, and mark the remain-

*Examples in Sterling Money.*

L. 145	6	8	L. 16	9	$11\frac{1}{4}$
215	3	9	169	16	10
172	18	4	36	12	$9\frac{3}{4}$
645	7	7	54	7	6
737	2	3	30	-	$1\frac{1}{4}$
35	3	9	7	19	6
9	-	7	707	19	11
1764	12	3	14	14	4
780	-	-	84	18	$8\frac{3}{4}$
99	9	9	125	3	7
150	10	-	16	16	$8\frac{3}{4}$
844	8	7	62	5	3

*In Avoirdupois Weight.*

T.	C.	qr.	lb.	T.	C.	qr.	lb.
1	19	3	26	3	15	2	24
-	14	1	16	6	3	-	19
2	18	1	16	5	7	3	26
-	1	2	27	3	2	2	-
3	1	-	10	4	3	1	10
-	17	2	24	-	18	1	12
-	15	3	18	1	1	1	1
4	6	-	5	5	3	-	7
-	6	3	9	6	4	-	9
6	4	-	4	4	6	-	5
5	5	-	5	2	1	3	4

When one page will not contain the whole account, we add the articles it contains, and write against their sum *Carried forward*; and we begin the next page with the sum of the foregoing, writing against it, *Brought forward*.

When the articles fill several pages, and their whole sum is known, which is the case in transcribing accounts, it is best to proceed in the following manner: Add the pages, placing the sums on a separate paper; then add the sums, and if the amount of the whole be right, it only remains to find what number should be placed at the foot and top of the pages. For this purpose, repeat the sum of the first page on the same line; add the sums of the first and second, placing the amount in a line with the second; to this add the sum of the third, placing the amount in a line with the third. Proceed in the like manner with the others; and if the last sum corresponds with the amount of the page, it is right. These sums are transcribed at the foot of the respective pages, and tops of the following ones.



Subtraction.	L. 134 6 8	L.	<i>Examples.</i>						L.	L.
	42 3 9	170	5	4	70	4	2	15	3	9
	175 4 9	66	9	8	18	6	8	12	2	6
	42 5 7	73	8	6	12	13	2	7	5	4
	163 7 4	45	3	2	15	3	9	8	-	-
148 5 8	78	7	9	17	5	4	-	9	6	
73 2 3	12	-	-	18	6	8	-	5	10	

L. 1419 17 1  
 Then we transcribe 778l. 16s. at the foot of the first and top of the second pages, 1224l. 10s. 5d. at the foot of the second and top of third; and so on.

CHAP. III. SUBTRACTION.

SUBTRACTION is the operation by which we take a lesser number from a greater, and find their difference. It is exactly opposite to addition, and is performed by learners in a like manner, beginning at the greater, and reckoning downwards the units of the lesser. The greater is called the *minuend*, and the lesser the *subtrahend*.

If any figure of the subtrahend be greater than the corresponding figure of the minuend, we add ten to that of the minuend, and having found and marked the difference, we add one to the next place of the subtrahend. This is called *borrowing ten*. The reason will appear, if we consider that, when two numbers are equally increased by adding the same to both, their difference will not be altered. When we proceed as directed above, we add ten to the minuend, and we likewise add one to the higher place of the subtrahend, which is equal to ten of the lower place.

RULE. "Subtract units from units, tens from tens, and so on. If any figure of the subtrahend be greater than the corresponding one of the minuend, borrow ten."

*Example.* Minuend 173694      738641  
 Subtrahend 21453            379235

Remainder 152241      359406

To prove subtraction, add the subtrahend and remainder together; if their sum be equal to the minuend, the account is right.

Or subtract the remainder from the minuend. If the difference be equal to the subtrahend, the account is right.

RULE for compound subtraction. "Place like denominations under like; and borrow, when necessary, according to the value of the higher place."

<i>Examples.</i>										
			<i>C. qr. lib.</i>							
L. 146	3	3	12	3	19	15	2	24	18	
58	7	6	4	3	24	12	2	36	7	

L. 87 15 9      7 3 23      2 3 28 11

Note 1. The reason for borrowing is the same as in simple subtraction. Thus, in subtracting pence, we

add 12 pence when necessary to the minuend, and at the next step, we add one shilling to the subtrahend.

Note 2. When there are two places in the same denomination, if the next higher contain exactly so many tens, it is best to subtract the units first, borrowing ten when necessary; and then subtract the tens, borrowing, if there is occasion, according to the number of tens in the higher denomination.

Note 3. If the value of the higher denomination be not an even number of tens, subtract the units and tens at once, borrowing according to the value of the higher denomination.

Note 4. Some choose to subtract the place in the subtrahend, when it exceeds that of the minuend, from the value of the higher denomination, and add the minuend to the difference. This is only a different order of proceeding, and gives the same answer.

Note 5. As custom has established the method of placing the subtrahend under the minuend, we follow it when there is no reason for doing otherwise; but the minuend may be placed under the subtrahend with equal propriety; and the learner should be able to work it either way, with equal readiness, as this last is sometimes more convenient; of which instances will occur afterwards.

Note 6. The learner should also acquire the habit when two numbers are marked down, of placing such a number under the lesser, that, when added together, the sum may be equal to the greater. The operation is the same as subtraction, though conceived in a different manner, and is useful in balancing accounts, and on other occasions.

It is often necessary to place the sums in different columns, in order to exhibit a clear view of what is required. For instance, if the values of several parcels of goods are to be added, and each parcel consists of several articles, the particular articles should be placed in an inner column, and the sum of each parcel extended to the outer column, and the total added there.

If any person be owing an account, and has made some partial payments, the payments must be placed in an inner column, and their sum extended under that of the account in the outer column, and subtracted there.

An example or two will make this plain.

1ft.] 30 yards linen at 2s.	L. 3		
45 ditto at 1s. 6d.	3	7	6
			L. 6 7 6
120 lb thread at 4s.	L. 24		
40 ditto at 3s.	6		
30 ditto at 2s. 6d.	3	15	
			33 15
			L. 40 2 6

2d.] 1773.			
Jan. 15. Lent James Smith	L. 50		
22. Lent him further	70		
			L. 120
Feb. 3. Received in part	L. 62		
5. Received further			
In gold	L. 10	10	
In silver	13		
			23 10
			85 10

Balance due me L. 34 10



Multiplication.

CHAP. IV. MULTIPLICATION.

IN multiplication, two numbers are given, and it is required to find how much the first amounts to, when reckoned as many times as there are units in the second. Thus, 8 multiplied by 5, or 5 times 8, is 40. The given numbers (8 and 5) are called *factors*; the first (8) the *multiplicand*; the second (5) the *multiplier*; and the amount (40) the *product*.

This operation is nothing else than addition of the same number several times repeated. If we mark 8 five times under each other, and add them, the sum is 40: But, as this kind of addition is of frequent and extensive use, in order to shorten the operation, we mark down the number only once, and conceive it to be repeated as often as there are units in the multiplier.

For this purpose, the learner must be thoroughly acquainted with the following multiplication table, which is composed by adding each digit twelve times.

Twice	Thrice	Four times	Five times	Six times	Seven times
1 is 2	1 is 3	1 is 4	1 is 5	1 is 6	1 is 7
2 4	2 6	2 8	2 10	2 12	2 14
3 6	3 9	3 12	3 15	3 18	3 21
4 8	4 12	4 16	4 20	4 24	4 28
5 10	5 15	5 20	5 25	5 30	5 35
6 12	6 18	6 24	6 30	6 36	6 42
7 14	7 21	7 28	7 35	7 42	7 49
8 16	8 24	8 32	8 40	8 48	8 56
9 18	9 27	9 36	9 45	9 54	9 63
10 20	10 30	10 40	10 50	10 60	10 70
11 22	11 33	11 44	11 55	11 66	11 77
12 24	12 36	12 48	12 60	12 72	12 84

Eight times	Nine times	Ten times	Eleven times	Twelve times
1 is 8	1 is 9	1 is 10	1 is 11	1 is 12
2 16	2 18	2 20	2 22	2 24
3 24	3 27	3 30	3 33	3 36
4 32	4 36	4 40	4 44	4 48
5 40	5 45	5 50	5 55	5 60
6 48	6 54	6 60	6 66	6 72
7 56	7 63	7 70	7 77	7 84
8 64	8 72	8 80	8 88	8 96
9 72	9 81	9 90	9 99	9 108
10 80	10 90	10 100	10 110	10 120
11 88	11 99	11 110	11 121	11 132
12 96	12 108	12 120	12 132	12 144

If both factors be under 12, the table exhibits the product at once. If the multiplier only be under 12, we begin at the unit place, and multiply the figures in their order, carrying the tens to the higher place, as in addition.

Ex. 76859 multiplied by 4, or 76859 added 4 times.

$$\begin{array}{r} 76859 \\ 4 \phantom{0000} \\ \hline 307436 \end{array}$$

If the multiplier be 10, we annex a cypher to the multiplicand. If the multiplier be 100, we annex two cyphers; and so on. The reason is obvious, from the use of cyphers in notation.

If the multiplier be any digit, with one or more cyphers on the right hand, we multiply by the figure,

and annex an equal number of cyphers to the product. Thus, if it be required to multiply by 50, we first multiply by 5, and then annex a cypher. It is the same thing as to add the multiplicand 50 times; and this might be done by writing the account at large, dividing the column into 10 parts of 5 lines, finding the sum of each part, and adding these ten sums together.

If the multiplier consist of several significant figures, we multiply separately by each, and add the products. It is the same as if we divided a long account of addition into parts corresponding to the figures of the multiplier.

Example. To multiply 7329 by 365.

$$\begin{array}{r} 7329 \quad 7329 \quad 7329 \quad 36645 = 5 \text{ times.} \\ 5 \quad 60 \quad 300 \quad 439740 = 60 \text{ times.} \\ \hline 36645 \quad 439740 \quad 2198700 \quad 2198700 = 300 \text{ times.} \\ \hline 2675085 = 365 \text{ times.} \end{array}$$

It is obvious that 5 times the multiplicand added to 60 times, and to 300 times, the same must amount to the product required. In practice, we place the products at once under each other; and as the cyphers arising from the higher places of the multiplier, are lost in the addition, we omit them. Hence may be inferred the following

RULE. "Place the multiplier under the multiplicand, and multiply the latter successively by the significant figures of the former; placing the right-hand figure of each product under the figure of the multiplier from which it arises; then add the product."

Ex.

$$\begin{array}{r} 7329 \quad 42785 \quad 37846 \quad 93956 \\ 365 \quad 91 \quad 235 \quad 8704 \\ \hline 36645 \quad 42785 \quad 189230 \quad 375824 \\ 43974 \quad 385065 \quad 113538 \quad 657692 \\ 21987 \quad 3893435 \quad 75692 \quad 751648 \\ \hline 2675085 \quad 8893810 \quad 817793024 \end{array}$$

A number which cannot be produced by the multiplication of two others is called a *prime number*; as 3, 5, 7, 11, and many others.

A number which may be produced by the multiplication of two or more smaller ones, is called a *composite number*. For example, 27, which arises from the multiplication of 9 by 3; and these numbers (9 and 3) are called the *component parts* of 27.

Contractions and Varieties in Multiplication.

First, If the multiplier be a composite number, we may multiply successively by the component parts.

Ex. 7638 by 45 or 5 times 9

$$\begin{array}{r} 7638 \text{ 1st,} \quad 5402 \text{ by } 72 \\ 45 \quad 9 \text{ 2d,} \quad 13759 \text{ by } 56 \\ \hline 38190 \quad 3d, \quad 56417 \text{ by } 144 \\ 30552 \quad 4th, \quad 73048 \text{ by } 84 \\ \hline 343710 \quad 5th, \quad 166549 \text{ by } 125 \\ 6th, \quad 378914 \text{ by } 54 \\ 7th, \quad 520813 \text{ by } 63 \end{array}$$

Because the second product is equal to five times the first, and the first is equal to nine times the multiplicand,







Multiplication.

L. 35 17 9 by 67=64+3 Here because 8 times 8  
 8 64=8x8 is 64, we multiply twice  
 by 8, which gives 2296l.  
 L. 287 2 --= 8 times. 16s. equal to 64 times the  
 8 multiplicand; then we find  
 the amount of 3 times the  
 L. 2296 16 --= 64 times. multiplicand, which is  
 107 13 3 = 3 times. 107l. 13s. 3d.; and it is  
 evident that these added,  
 L. 2404 9 3 = 67 times. amount to 67, the multi-  
 plicand.

RULE IV. "If there be a composite number a lit-  
 tle above the multiplier, we may multiply by that  
 "number, and by the difference, und subtract the  
 "second product from the first."

L. 17 4 5 by 106=108-2 Here we multiply  
 12 108=9x12 by 12 and 9, the com-  
 ponent parts of 108,  
 and obtain a product  
 of 1860l. 6s. equal to  
 108 times the multi-  
 plicand; and, as this  
 is twice oftener than  
 was required, we sub-  
 tract the multiplicand  
 doubled, and the re-  
 mainder is the num-  
 ber sought.

Example. 34l. 8s. 2½d. by 3466.

RULE V. "If the multiplier be large, multiply by  
 "10, and multiply the product again by 10; by  
 "which means you obtain an hundred times the given  
 "number. If the multiplier exceed 1000, multiply  
 "by 10 again; and continue it farther, if the multi-  
 "plier require it; then multiply the given number  
 "by the unit-place of the multiplier; the first product  
 "by the ten-place, the second product by the hun-  
 "dred-place; and so on. Add the products thus ob-  
 "tained together."

L. 34 8 2½ by 5 = L. 172 1 0½ = 5 times  
 10 times L. 344 2 1 by 6 = 2064 12 6 = 60 times  
 100 times L. 3441 10 by 4 = 13764 3 4 = 400 times  
 1000 times L. 34410 8 4 by 3 = 103231 5 = 3000 times  
 L. 119232 9 10½ = 3465 times

The use of multiplication is to compute the amount  
 of any number of equal articles, either in respect of  
 measure, weight, value, or any other consideration.  
 The multiplicand expresses how much is to be reck-  
 oned for each article; and the multiplier expresses  
 how many times that is to be reckoned. As the  
 multiplier points out the number of articles to be  
 added, it is always an abstract number, and has no  
 reference to any value or measure whatever. It is  
 therefore quite improper to attempt the multiplic-  
 ation of shillings by shillings, or to consider the multi-  
 plier as expressive of any denomination. The most  
 common instances in which the practice of this op-  
 eration is required, are, to find the amount of any  
 number of parcels, to find the value of any number of  
 articles, to find the weight or measure of a number of  
 articles, &c.

This computation, for changing any sum of money,  
 weight, or measure, into a different kind, is called  
 REDUCTION. When the quantity given is expressed  
 in different denominations, we reduce the highest to  
 the next lower, and add thereto the given number of  
 that denomination; and proceed in like manner till  
 we have reduced it to the lowest denomination.

Example. To reduce 46l. 13s. 8½d. to farthings.

L. 46		Or thus:
20		
920 shillings in L.46		L.46 13 8½
13		20
933 shillings in L.46 13		933
12		12
11196 pence in L.46 13		11204
8		4
11204 pence in L.46 13 8		44819
4		
44186 farthings in L.46 13 8		
3		
44819 farthings in L.46 13 8½		

It is easy to take in or add the higher denomina-  
 tion at the same time we multiply the lower.

CHAP. V. DIVISION.

In division, two numbers are given; and it is re-  
 quired to find how often the former contains the lat-  
 ter. Thus, it may be asked how often 21 contains 7,  
 and the answer is, exactly 3 times. The former given  
 number (21) is called the *Dividend*; the latter (7) the  
*Divisor*; and the number required (3) the *Quotient*. It  
 frequently happens that the division cannot be com-  
 pleted exactly without fractions. Thus it may be ask-  
 ed, how often 8 is contained in 19? the answer is  
 twice, and the remainder of 3.

This operation consists in subtracting the divisor  
 from the dividend, and again from the remainder, as  
 often as it can be done, and reckoning the number  
 of subtractions; as,

21	19
7 first subtraction	8 first subtraction
14	11
7 second subtraction	8 second subtraction
7	3 remainder.
7 third subtraction	
0	

As this operation, performed at large, would be  
 very tedious, when the quotient is a high number, it  
 is proper to shorten it by every convenient method;  
 and, for this purpose, we may multiply the divisor  
 by any number whose product is not greater than  
 the dividend, and so subtract it twice or thrice, or  
 oftener, at the same time. The best way is to mul-  
 tiply it by the greatest number, that does not raise  
 the product too high, and that number is also the  
 quotient. For example, to divide 45 by 7, we in-  
 quire what is the greatest multiplier for 7, that does

not



Division. not give a product above 45; and we shall find that it is 6; and 6 times 7 is 42, which, subtracted from 45, leaves a remainder of 3. Therefore 7 may be subtracted 6 times from 45; or, which is the same thing, 45, divided by 7, gives a quotient of 6, and a remainder of 3.

If the divisor do not exceed 12, we readily find the highest multiplier that can be used from the multiplication table. If it exceed 12, we may try any multiplier that we think will answer. If the product be greater than the dividend, the multiplier is too great; and if the remainder, after the product is subtracted from the dividend, be greater than the divisor, the multiplier is too small. In either of these cases, we must try another. But the attentive learner, after some practice, will generally hit on the right multiplier at first.

If the divisor be contained oftener than ten times in the dividend, the operation requires as many steps as there are figures in the quotient. For instance, if the quotient be greater than 100, but less than 1000, it requires 3 steps. We first inquire how many hundred times the divisor is contained in the dividend, and subtract the amount of these hundreds. Then we inquire how often it is contained ten times in the remainder, and subtract the amount of these tens. Lastly, We inquire how many single times it is contained in the remainder. The method of proceeding will appear from the following example:

To divide 5936 by 8.  
 From 5936  
 Take 5600 = 700 times 8  
 Rem. 336  
 From which take 320 = 40 times 8  
 Rem. 16  
 From which take 16 = 2 times 8

o 742 times 8 in all.

It is obvious, that as often as 8 is contained in 59, so many hundred times it will be contained in 5900, or in 5936; and, as often as it is contained in 33, so many ten times it will be contained in 330, or in 336; and thus the higher places of the quotient will be obtained with equal ease as the lower. The operation might be performed by subtracting 8 continually from the dividend, which will lead to the same conclusion by a very tedious process. After 700 subtractions, the remainder would be 336; after 40 more, it would be 16; and after 2 more, the dividend would be entirely exhausted. In practice, we omit the cyphers, and proceed by the following

RULES. 1st, "Assume as many figures on the left hand of the multiplier as contain the divisor once or oftener: find how many times they contain it, and place the answer as the highest figure of the quotient."

2d, "Multiply the divisor by the figure you have found, and place the product under the part of the dividend from which it is obtained."

3d, "Subtract the product from the figures above it."

4th, "Bring down the next figure of the dividend to the remainder, and divide the number it makes up, as before."

Examples.] 1st. 8)5936(742  
 56..  
 33  
 32  
 16  
 16  
 o

2d. 63)30114(478  
 252..  
 491  
 441  
 504  
 504  
 o

3d. 365)974932(2671  $\frac{17}{365}$   
 730...  
 2449  
 2190  
 2593  
 2555  
 382  
 365

Remainder 17

The numbers which we divide, as 59, 33, and 16, in the first example, are called *dividends*.

It is usual to mark a point under the figures of the dividend, as they are brought down, to prevent mistakes.

If there be a remainder, the division is completed by a vulgar fraction, whose numerator is the remainder, and its denominator the divisor. Thus, in Ex. 3. the quotient is 2671, and the remainder 17; and the quotient completed is 2671  $\frac{17}{365}$ .

A number which divides another without a remainder is said to measure it; and the several numbers which measure another, are called its *aliquot parts*. Thus 2, 4, 6, 8, and 12, are aliquot parts of 24. As it is often useful to discover numbers which measure others, we may observe,

1st, Every number ending with an even figure, that is, with 2, 4, 6, 8, or 0, is measured by 2.

2d, Every number ending with 5, or 0, is measured by 5.

3d, Every number, whose figures, when added, amount to an even number of 3's or 9's, is measured by 3 or 9, respectively.

*Contractions and Varieties in Division.*

First, When the divisor does not exceed 12, the whole computation may be performed without setting down any figures except the quotient.

Ex. 7)35868(5124 or 7)35868  
 5124

Secondly, When the divisor is a composite number, and one of the component parts also measures the dividend, we may divide successively by the component parts.

Ex. 1st.] 30114 by 63 2d.] 975 by 105 = 5 x 7 x 3  
 9)30114 5)975  
 7)3346 3)195  
 Quotient 478 7)65  
 Quotient 97

This method might be also used, although the component parts of the divisor do not measure the dividend; but the learner will not understand how to manage



Division. manage the remainder till he be acquainted with the doctrine of vulgar fractions.

Thirdly, When there are cyphers annexed to the divisor, cut them off, and cut off an equal number of figures from the dividend; annex these figures to the remainder. *Ex.* To divide 378643 by 5200.

$$\begin{array}{r}
 52 \overline{) 378643} \\
 \underline{364} \phantom{0} \\
 146 \phantom{0} \\
 \underline{104} \phantom{0} \\
 4243
 \end{array}$$

The reason will appear by performing the operation at large, and comparing the steps.

To divide by 10, 100, 1000, or the like. Cut off as many figures on the right hand of the dividend as there are cyphers in the divisor. The figures which remain on the left hand compose the quotient, and the figures cut off compose the remainder.

Fourthly, When the divisor consists of several figures we may try them separately, by inquiring how often the first figure of the divisor is contained in the first figure of the dividend, and then considering whether the second and following figures of the divisor be contained as often in the corresponding ones of the dividend with the remainder (if any) prefixed. If not, we must begin again, and make trial of a lower number. When the remainder is nine, or upwards, we may be sure the division will hold through the lower places; and it is necessary to continue the trial farther.

Fifthly, We may make a table of the products of the divisor, multiplied by the nine digits, in order to discover more readily how often it is contained in each individual. This is convenient when the dividend is very long, or when it is required to divide frequently by the same divisor.

73 by 2 = 146	73)53872694(737982
3 = 219	511.....
4 = 292	_____
5 = 365	277
6 = 438	219
7 = 511	_____
8 = 584	582
9 = 657	511
	_____
	716
	657
	_____
	599
	584
	_____
	154
	146
	_____
	Rem. 8

Sixthly, To divide by 9, 99, 999, or any number of 9's, transcribe under the dividend part of the same, shifting the highest figure as many places to the right hand as there are 9's in the divisor. Transcribe it again, with the like change of place, as often as the length of the dividend admits; add these together, and cut off as many figures from the right hand of the sum as there are 9's in the divisor. The

figures which remain on the left hand compose the quotient, and those cut off the remainder.

If there be any carriage to the unit place of the quotient, add the number carried likewise to the remainder, as in Ex. 2.; and if the figures cut off be all 9's, add 1 to the quotient, and there is no remainder.

$$\begin{array}{r}
 \text{Examples. 1st.} \quad 99 \overline{) 324123} \\
 \underline{3241} \phantom{0} \\
 32 \\
 \underline{3273} \phantom{96} \\
 96
 \end{array}$$

Quotient 3273 and rem. 96.

Quotient 5333.58 rem.

$$\begin{array}{r}
 3d.] 999 \overline{) 476523} \\
 \underline{476} \phantom{00} \\
 999
 \end{array}$$

$$\begin{array}{r}
 476 \overline{) 999} \\
 \underline{476} \\
 523
 \end{array}$$

Quotient 477

To explain the reason of this, we must recollect, that whatever number of hundreds any dividend contains, it contains an equal number of 99's, together with an equal number of units. In Ex. 1. the dividend contains 3241 hundreds, and a remainder of 23. It therefore contains 3241 times 99, and also 3241, besides the remainder already mentioned.—Again, 3241 contains 32 hundreds, and a remainder of 51: it therefore contains 32 99's, and also 32, besides the remainder of 41. Consequently the dividend contains 99, altogether, 3241 times, and 32 times, that is 3273 times, and the remainder consists of 23, 41, and 32, added, which makes 96.

As multiplication supplies the place of frequent additions, and division of frequent subtractions, they are only repetitions and contractions of the simple rules, and when compared together, their tendency is exactly opposite. As numbers, increased by addition, are diminished and brought back to their original quantity by subtraction; in like manner, numbers compounded by multiplication are reduced by division to the parts from which they were compounded. The multiplier shows how many additions are necessary to produce the number; and the quotient shows how many subtractions are necessary to exhaust it. It follows, that the product, divided by the multiplicand, will quote the multiplier; and because either factor may be assumed for the multiplicand, therefore the product divided by either factor, quotes the other. It follows, also, that the dividend is equal to the product of the divisor and quotient multiplied together; and hence these operations mutually prove each other.

To prove multiplication. Divide the product by either factor. If the operation be right, the quotient is the other factor, and there is no remainder.

To prove division. Multiply the divisor and quotient together; to the product add the remainder, if any; and, if the operation be right, it makes up the dividend. Otherwise divide the dividend (after subtracting the remainder, if any) by the quotient. If the operation be right, it will quote the divisor. The reason of all these rules may be collected from the last paragraph.



Division.

COMPOUND DIVISION.

12 **RULE I.** "When the dividend only consists of different denominations, divide the higher denomination, and reduce the remainder to the next lower, taking in (p. 629. Rule V.) the given number of that denomination, and continue the division."

Examples.

Divide L.465 : 12 : 8 by 72 L. s. d. L. s. d. 72)465 12 8 (6 9 4 432 .. 33 20	Divide 345 cwt. 1q. 8lb. by 22 Cwt. q. lb. Cwt. q. lb. 22)345 1 8 (15 2 21 22 .. 125 110
72)672 648 24 12	22)61 44
72)296 288 8 Rem.	22)484 44 44 44 0

Or we might divide by the component parts of 72, (as explained under Thirdly, p. 631).

**RULE II.** "When the divisor is in different denominations, reduce both divisor and dividend to the lowest denomination, and proceed as in simple division. The quotient is an abstract number."

To divide 38l. 13s. by 3l. 4s. 5d.      To divide 96 cwt. 1q. 20lb. by 3cwt. 2q. 8lb.

L. 3 4 5 L.38 13 20      20 64      773 12      12 773      )9276(12 quote. 120 773      28      3100 1546      4 00) 108 00(27 quote. 1546	Cwt. q. lb. Cwt. q. lb. 3 2 8 ) 96 1 20 4      4 14      385 28      28 3100 770
--	--

It is best not to reduce the terms lower than is necessary to render them equal. For instance, if each of them consists of an even number of sixpences, fourpences, or the like, we reduce them to sixpences, or fourpences, but not to pence.

The use of division is to find either of the factors by whose multiplication a given number is produced,

when the other factor is given; and therefore is of two kinds, since either the multiplier or the multiplicand may be given. If the former be given, it discovers what that number is which is contained so many times in another. If the latter be given, it discovers how many times one number is contained in another. Thus, it answers the questions of an opposite kind to those mentioned under Rule IV. p. 629. as, To find the quantity of a single parcel or share; to find the value, weight, or measure, of a single article; to find how much work is done, provisions consumed, interest incurred, or the like, in a single day, &c.

The last use of division is a kind of reduction exactly opposite to that described under Rule V. p. 629. The manner of conducting and arranging it, when there are several denominations in the question, will appear from the following examples.

1. To reduce 15783 pence to pounds, sh. and pence.      2. To reduce 174865 grs. to lb. oz. and dwt. Troy.

20 12)15783(1315(65 12 .. 120	20 12 24)174865(7286(364(30 168 .. 60 .. 36
37 115 36 100	68 128 04 48 120
18 15 12	206 86 192 80
63 60	145 6 144

Answer, 65l. 15s. 3d.      Anf. 30lb. 4oz. 6dwt. 1gr.

In the first example, we reduce 15783 pence to shillings, by dividing by 12, and obtain 1315 shillings, and a remainder of 3 pence. Then we reduce 1315 shillings to pounds, by dividing by 20, and obtain 65 pounds and a remainder of 15 shillings. The divisions might have been contracted.

In the practice of arithmetic, questions often occur which require both multiplication and division to resolve. This happens in reduction, when the higher denomination does not contain an exact number of the lower.

**RULE for mixed reduction.** "Reduce the given denomination by multiplication to some lower one, which is an aliquot part of both; then reduce that by division to the denomination required."

Ex. Reduce 31742l. to guineas.

31742 20 634840(30230 63 ..	Here we multiply by 20, which reduces the pounds to shillings; and divide the product by 21, which reduces the shillings to guineas.
048 42 64 63	

10 Answer, 30230 guineas and 10 shillings.

As



Division.	As Portuguese money frequently passes here in payments, we shall give a table of the pieces, and their value.
	A moidore = L. 1 7 -
	A half moidore = - 13 6
	A quarter moidore = - 6 9
	A double Joannes = 3 12 -
	A Joannes - = 1 16 -
	A half ditto - = - 18 -
	A quarter ditto = - 9 -
	An eighth ditto = - 4 6

Note 1. Guineas may be reduced to pounds, by adding one-twentieth part of the number.

2. Pounds may be reduced to merks by adding one half.

3. Merks may be reduced to pounds by subtracting one-third.

4. Four moidores are equal to three Joannes: wherefore moidores may be reduced to Joannes, by subtracting one-fourth; and Joannes to moidores, by adding one-third.

5. Five Joannes are equal to 9l. Hence it is easy to reduce Portuguese money to sterling.

Another case, which requires both multiplication and division, is, when the value, weight, measure, or duration of any quantity is given, and the value, &c. of a different quantity required, we first find the value, &c. of a single article by division, and then the value, &c. of the quantity required, by multiplication.

Ex. If 3 yards cost 15s. 9d. what will 7 yards cost, at the same rate?

s.	d.	
3) 15	9	Price of 3 yards.
5	3	Price of 1 yard, by Rule IV. p. 629.
	7	

L. 1 16 9 Price of 7 yards (by par. ult. p. 632. col. 1.)

Many other instances might be adduced, where the operation, and the reason of it are equally obvious. These are generally, though unnecessarily, referred to the rule of Proportion.

We shall now offer a general observation on all the operations in arithmetic. When a computation requires several steps, we obtain a just answer, whatever order we follow. Some arrangements may be preferable to others in point of ease, but all of them lead to the same conclusion. In addition, or subtraction, we may take the articles in any order, as is evident from the idea of number; or, we may collect them into several sums, and add or subtract these, either separately or together. When both the simple operations are required to be repeated, we may either complete one of them first, or may introduce them promiscuously, and the compound operations admit of the same variety. When several numbers are to be multiplied together, we may take the factors in any order, or we may arrange them into several classes, find the product of each class, and then multiply the products together. When a number is to be divided by several others, we may take the divisors in any order, or we may multiply them into each other, and divide by the product; or we may multiply them into several parcels, and divide by the products successively. Lastly, When multiplication and division are both required, we may begin with either; and when both are repeatedly necessary, we may collect

VOL. II. Part II.

the multipliers into one product, and the divisors into another; or, we collect them into parcels, or use them singly, and that in any order. Still we shall obtain the proper answer, if none of the terms be neglected.

When both multiplication and division are necessary to obtain the answer of a question, it is generally best to begin with the multiplication, as this order keeps the account as clear as possible from fractions. The example last given may be wrought accordingly as follows:

s.	d.
15	9
	7
-----	
3) 5	10 3
	1 16 9

Some accountants prove the operations of arithmetic by a method which they call casting out the 9's, depending on the following principles:

First, If several numbers be divided by any divisor (the remainders being always added to the next number), the sum of the quotients, and the last remainder, will be the same as those obtained when the sum of the numbers is divided by the same divisor. Thus, 19, 15, and 23, contain, together, as many 5's, as many 7's, &c. as their sum 57 does, and the remainders are the same; and, in this way, addition may be proven by division. It is from the correspondence of the remainders, that the proof, by casting out the 9's, is deduced.

Secondly, If any figure with cyphers annexed, be divided by 9, the quotient consists entirely of that figure; and the remainder is also the same. Thus, 40, divided by 9, quotes 4, remainder 4; and 400 divided by 9, quotes 44, remainder 4. The same holds with all the digits; and the reason will be easily understood; every digit, with a cypher annexed, contains exactly so many tens; it must therefore contain an equal number of 9's, besides a remainder of an equal number of units.

Thirdly, If any number be divided by 9, the remainder is equal to the sum of the figures of the number, or to the remainder obtained, when that sum is divided by 9. For instance, 3765, divided by 9, leave a remainder of 3, and the sum of 3, 7, 6, and 5, is 21; which divided by 9, leaves a remainder of 3. The reason of this will appear from the following illustration:

3000	divided by 9	quotes 333;	remainder 3
700		quotes 77;	remainder 7
60		quotes 7;	remainder 6
5		quotes 0;	remainder 5
-----			
3765		416	Sum of rem. 21
Again: 21		divided by 9	quotes 2; remainder 3

wherefore, 3765 divid. by 9 quotes 418; remainder 3; for the reason given. Hence we may collect the following rules for practice.

To cast the 9's out of any number, or to find what remainder will be left when any number is divided by 9: Add the figures; and when the sum exceeds 9, add the figures which would express it. Pass by the 9's; and, when the sum comes exactly to 9, neglect it, and begin anew. For example, if it be required to cast the 9's out of 3573294, we reckon thus: 3 and 4 L 5 is



Division. 5 is 8, and 7 is 15; 1 and 5 is 6, and 3 is 9, which we neglect; 2 and (passing by 9) 4 is 6; which is the remainder or RESULT. If the article out of which the 9's are to be cast contains more denominations than one, we cast the 9's out of the higher, and multiply the result by the value of the lower, and carry on the product (casting out the 9's, if necessary), to the lower.

To prove addition, cast the 9's out of the several articles, carrying the results to the following articles; cast them also out of the sum. If the operation be right, the results will agree.

To prove subtraction, cast the 9's out of the minuend; cast them also out of the subtrahend and remainder together; and if you obtain the same result, the operation is presumed right.

To prove multiplication, cast the 9's out of the multiplicand, and also out of the multiplier, if above 9. Multiply the results together, and cast the 9's, if necessary, out of their product. Then cast the 9's out of the product, and observe if this result correspond with the former.

$$\text{Ex. 1st.]} \begin{array}{r} 9276 \\ 8 \end{array} \text{ ref. } 6 \times 8 = 48 \text{ ref. } 3.$$

$$\begin{array}{r} 74208 \\ 2d.] 7898 \\ 48 \end{array} \text{ ref. } 3. \quad \text{ref. } 6. \quad \text{ref. } 3.$$

$$\begin{array}{r} 63184 \\ 31592 \\ \hline 379104 \end{array} \text{ ref. } 6.$$

The reason of this will be evident, if we consider multiplication under the view of repeated addition. In the first example it is obviously the same. In the second, we may suppose the multiplicand repeated 48 times. If this be done, and the 9's cast out, the result, at the end of the 9th line, will be 0; for any number, repeated 9 times, and divided by 9, leaves no remainder. The same must happen at the end of the 18th, 27th, 36th, and 45th lines; and the last result will be the same as if the multiplicand had only been repeated 3 times. This is the reason for casting out the 9's from the multiplier as well as the multiplicand.

To prove division, cast the 9's out of the divisor, and also out of the quotient; multiply the results, and cast the 9's out of the product. If there be any remainder, add to it the result, casting out the 9's, if necessary. If the account be right, the last result will agree with that obtained from the dividend.

$$\text{Ex. } 42) 2490 \text{ (59 ref. } 5 \times 6 = 30 \text{ ref. } 3. \\ \text{ref. } 6 \quad 210$$

$$\begin{array}{r} 390 \\ 378 \\ \hline \end{array}$$

$$\text{Rem. } 12 \quad - \quad - \quad \text{ref. } 3.$$

And the result of the dividend is 6

This depends on the same reason as the last; for the dividend is equal to the product of the divisor and quotient added to the remainder.

We cannot recommend this method, as it lies under Proportion. the following disadvantages.

First, If an error of 9, or any of its multiples, be committed, the results will nevertheless agree; and so the error will remain undiscovered. And this will always be the case, when a figure is placed or reckoned in a wrong column; which is one of the most frequent causes of error.

Secondly, When it appears by the disagreement of the results, that an error has been committed, the particular figure or figures in which the error lies are not pointed out; and, consequently, it is not easily corrected.

## CHAP. VI. RULE OF PROPORTION.

### SECT. I. SIMPLE PROPORTION.

QUANTITIES are reckoned proportional to each other, when they are connected in such a manner, that if one of them be increased or diminished, the other increases or diminishes at the same time; and the degree of the alteration on each is a like part of its original measure; thus four numbers are in the same proportion, the first to the second as the third to the fourth, when the first contains the second, or any part of it, as often as the third contains the fourth, or the like part of it. In either of these cases, the quotient of the first, divided by the second, is equal to that of the third divided by the fourth; and this quotient may be called the *measure of the proportion*.

Proportionals are marked down in the following manner:

$$\begin{array}{l} 6 : 3 :: 8 : 4 \\ 12 : 36 :: 9 : 27 \\ 9 : 6 :: 24 : 18 \\ 16 : 24 :: 10 : 15 \end{array}$$

The rule of Proportion directs us, when three numbers are given, how to find a fourth, to which the third may have the same proportion that the first has to the second. It is sometimes called the *Rule of Three*, from the three numbers given; and sometimes the *Golden Rule*, from its various and extensive utility.

RULE. "Multiply the second and third terms together, and divide the product by the first."

Ex. To find a fourth proportional to 18, 27, and 34.

$$18 : 27 :: 34 : 51$$

$$34$$

$$108$$

$$81$$

$$18)910(51$$

$$90$$

$$18$$

$$18$$

$$0$$

To explain the reason of this, we must observe, that if two or more numbers be multiplied or divided alike, the products or quotients will have the same proportion.

$$\begin{array}{l} 18 : 27 \\ \text{Multiplied by } 34, \quad 312 : 918 \\ \text{Divided by } 18, \quad 34 : 51 \end{array}$$

The







Proportion. Men 18 : 24 :: 6 bolls  
Days 28 : 56

144 144  
36 120

504 1344  
6

504)8064(16

“ In general, state the several particulars on which the question depends, as so many simple proportions, attending to the sense of the question to discover whether the proportions should be stated directly or inversely; then multiply all the terms in the first rank together, and all those in the second rank together; and work with the products as directed in the simple rule (Sect. 1. p. 634.)”

Example. If 100 men make 3 miles of road in 27 days, in how many days will 150 men make 5 miles?

Men 150 : 100 :: 27 days  
Miles 3 5

450 500  
27

450)13500(30 days, anf.

The following contraction is often useful. After stating the proportion, if the same number occurs in both ranks, dash it out from both; or, if any term in the first rank, and another in the second rank are measured by the same numbers, dash out the original terms, and use the quotients in their stead.

Ex. If 18 men consume 30l. value of corn in 9 months, when the price is 16s. per boll, how many will consume 54l. value in 6 months, when the price is 12s. per boll? In this question, the proportion depends upon three particulars, the value of corn, the time and the price. The first of which is direct, because the more the value of provisions is, the more time is required to consume them; but the second and third are inverse, for the greater the time and price is, fewer men will consume an equal value.

Value 30 : 54 :: 18 men.

Months 9 : 6  
Price 12 : 16

10 9  
3 3  
4

36  
18

288  
36

10)648(64 1/10

Here we observe 6 in the first rank measures 54 in the second: so we dash them out, and place the quotient 9 in the second rank. Next, because 30 and 9 are both measured by 3, we dash them out, and place down the quotients 10 and 3; then, because 12 and 16 are both measured by 4, we dash them out, and place down the quotients 3 and 4. Lastly, Because there is now 3 in both columns, we dash them out, and work with the remaining terms, according to the rule.

The monies, weights and measures, of different countries, may be reduced from the proportion which they bear to each other.

Ex. If 112 lb. avoirdupois make 104 lb. of Holland, and 100 lb. of Holland make 89 of Geneva, and 110

of Geneva make 117 of Seville, how many lbs. of Seville will make 100 lb. avoirdupois.

112 : 104 :: 100  
100 : 89  
110 : 117

If it be required, how many lb. avoirdupois will make 100 of Seville, the terms would have been placed in the different columns thus:

104 : 112 :: 100  
89 : 100  
117 : 110

SECT. III. DISTRIBUTIVE PROPORTION.

If it be required to divide a number into parts, which have the same proportion to each other, that several other given numbers have, we add these numbers together, and state the following proposition: As the sum is to the particular numbers, so is the number required to be divided to the several parts sought.

Ex. 1st.] Four partners engage to trade in company; A's stock is 150l. B's 320l. C's 350l. D's 500l.; and they gain 730l.: Required how much belongs to each, if the gain be divided among them in proportion to their stocks?

									Rem.
A's stock	L. 150	1320 : 150 :: 730 :	L. 82	19	1	—	120		
B's	320	1320 : 320 :: 730 :	176	19	4	—	960		
C's	350	1320 : 350 :: 730 :	193	11	2	—	720		
D's	500	1320 : 500 :: 730 :	276	10	3	—	840		

Wholestock 1320

Proof L. 730

This account is proved by adding the gains of the partners; the sum of which will be equal to the whole gain, if the operation be right; but, if there be remainders, they must be added, their sum divided by the common divisor, and the quotient carried to the lowest place.

Ex. 2d.] A bankrupt owes A 146l. B 170l. C 45l. D 480l. and E 72l.; his whole effects are only 342l. 7s. 6d. How much should each have?

A's debt	L. 146	913 : 146 :: L. 342 7 6 :	L. 54	15	A's share.
B's	170	913 : 170 :: 342 7 6 :	63	15	B's
C's	45	913 : 45 :: 342 7 6 :	16	17	6 C's
D's	480	913 : 480 :: 342 7 6 :	180		D's
E's	72	913 : 72 :: 342 7 6 :	27		E's

L. 913

L. 342 7 6

This might also be calculated, by finding what composition the bankrupt was able to pay per pound; which is obtained by dividing the amount of his effects by the amount of his debts; and comes to 7s. 6d. and then finding by the rules of practice, how much each debt came to at that rate.

CHAP. VII. RULES FOR PRACTICE.

THE operations explained in the foregoing chapters comprehend the whole system of arithmetic, and are sufficient for every computation. In many cases, however, the work may be contracted, by adverting to the particular circumstances of the question. We shall explain, in this chapter, the most useful methods which practice has suggested for rendering mercantile computations easy; in which, the four elementary rules of arithmetic are sometimes jointly, sometimes separately employed.

SECT. I. COMPUTATION OF PRICES.

The value of any number of articles, at a pound, a shilling,



*Practice.* shilling, or a penny, is an equal number of pounds, shillings, or pence; and these two last are easily reduced to pounds. The value, at any other rate, may be calculated by easy methods, depending on some contraction already explained, or on one or more of the following principles.

1st, If the rate be an aliquot part of a pound, a shilling, or a penny, then an exact number of articles may be bought for a pound, a shilling, or a penny; and the value is found by dividing the given number accordingly. Thus, to find the price of 50 many yards at 2s. 6d. which is the eighth part of a pound, we divide the quantity by eight, because every eight yards cost L. 1.

2d, If the rate be equal to the sum of two other rates which are easily calculated, the value may be found by computing these separately, and adding the sums obtained. Thus, the price of 50 many yards, at 9d. is found, by adding their prices, at 6d. and 3d. together.

3d, If the rate be equal to the difference of two easy rates, they may be calculated separately, and the lesser subtracted from the greater. Thus, the value of 50 many articles at 11d. is found, by subtracting their value at a penny from their value at a shilling. We may suppose that a shilling was paid for each article, and then a penny returned on each.

4th, If the rate be a composite number, the value may be found by calculating what it comes to at one of the component parts, and multiplying the same by the other.

CASE I. "When the rate is an aliquot part of a pound, divide the quantity by the number which may be bought for a pound."

Table of the aliquot parts of L. 1.

10 shillings = $\frac{1}{2}$ of L. 1.	1s. 4d. = $\frac{1}{12}$ of L. 1.
6s. 8d. = $\frac{1}{3}$	1s. 3d. = $\frac{1}{16}$
5s. = $\frac{1}{4}$	1s. = $\frac{1}{20}$
4s. = $\frac{1}{5}$	8d. = $\frac{1}{15}$
3s. 4d. = $\frac{1}{6}$	6d. = $\frac{1}{10}$
2s. 6d. = $\frac{1}{8}$	4d. = $\frac{1}{8}$
2s. = $\frac{1}{10}$	3d. = $\frac{1}{12}$
1s. 8d. = $\frac{1}{12}$	2d. = $\frac{1}{10}$

Ex. 1st.] What is the value of 7463 yards, at 4s.?  

$$\begin{array}{r} 5)7463 \\ \underline{1492} \\ 1492 \end{array}$$
 L. 1492 12s.

2d.] What is the value of 1773 yards, at 3d.?  

$$\begin{array}{r} 80)1773 \\ \underline{1600} \\ 173 \\ \underline{160} \\ 13 \end{array}$$
 L. 22 3 3

In the first example we divide by 5 because 4s. is  $\frac{1}{5}$  of a pound; the quotient 1492 shows how many pounds they amount to; besides which there remain three yards at 4s. and these come to 12s. In the second example, we divide by 80, as directed, and the quotient gives L. 22, and the remainder 13 yards, which at 3d. comes to 3s. 3d.

This method can only be used in calculating for the particular prices specified in the table. The following 6 cases comprehend all possible rates, and will therefore exhibit different methods of solving the foregoing questions.

CASE II. "When the rate consists of shillings only, multiply the quantity by the number of shillings, and divide the product by 20: Or, if the number of shillings be even, multiply by half the number, and divide the product by 10."

Ex. 1st.] 4573 at 13s.  

$$\begin{array}{r} 13 \\ \underline{13719} \\ 4573 \end{array}$$

20)59449  
 L. 2972 9s.

The learner will easily perceive, that the method in which the second example is wrought, must give the same answer as if the quantity had been multiplied by 14, and divided by 20; and, as the division by 10 doubles the last figure for shillings, and continues all the rest unchanged for pounds, we may obtain the answer at once, by doubling the right-hand figure of the product before we set it down.

If the rate be the sum of two or more aliquot parts of a pound, we may calculate these as directed in Case I. and add them. If it be any odd number of shillings, we may calculate for the even number next lower, and add thereto the value at a shilling. If it be 19s. we may subtract the value at a shilling, from the value at a pound.

CASE III. "When the rate consists of pence only."

Method I. If the rate be an aliquot part of a shilling, divide the quantity accordingly, which gives the answer in shillings; if not, it may be divided into two or more aliquot parts: calculate these separately, and add the values; reduce the answer to pounds.

1 penny is  $\frac{1}{12}$  of a shilling.  
 2d. =  $\frac{1}{6}$  of ditto.  
 3d. =  $\frac{1}{4}$  of ditto.  
 4d. =  $\frac{1}{3}$  of ditto.  
 6d. =  $\frac{1}{2}$  of ditto.

5d. is the sum of 4d. and 1d. or of 2d. and 3d.  
 7d. is the sum of 4d. and 3d. or of 6d. and 1d.  
 8d. is the sum of 6d. and 2d. or the double of 4d.  
 9d. is the sum of 6d. and 3d.  
 10d. is the sum of 6d. and 4d.  
 11d. is the sum of 6d. 3d. and 2d.

Ex. 1st.] 7423 at 4d.  

$$\begin{array}{r} 3)7423 \\ \underline{2166} \\ 5274 \\ \underline{1236} \\ 4038 \\ \underline{1236} \\ 2802 \\ \underline{2400} \\ 402 \end{array}$$
 L. 123 14 4  
 2d.] 9786 at 9d.

Here, because 4d. is one third of a shilling, we divide by 3, which gives the price in shills. and reduce these by divisions to pounds.

Here we suppose, that first 6d. and then 3d. is paid for each article; half the quantity is the number of shillings which they would cost at 6d. each. Half of that is the cost at 3d. and these added and reduced give the answer.

At 6d. =  $\frac{1}{2}$  of 1s. 4893  
 At 3d. =  $\frac{1}{4}$  of 6d. 2446 6  
 At 9d. = 7339 6  
 L. 366 19 6  
 3d.] 4856 at 11d.

Here we calculate what the articles would cost at 6d. at 3d. and at 2d. and add the values.

At 6d. =  $\frac{1}{2}$  of 1s. 2428  
 At 3d. =  $\frac{1}{4}$  of 6d. 1214  
 At 2d. =  $\frac{1}{3}$  of 6d. 809  $\frac{2}{3}$   
 11d. = 4451 4  
 L. 222 11 4

It is sometimes easier to calculate at two rates, whose difference is the rate required, and subtract the lesser value from the greater. Thus, the last example may be wrought by subtracting the value at a penny from the value at a shilling. The remainder must be the value

*Practice.*

2d.] 7543 at 14s.  

$$\begin{array}{r} 7 \\ \underline{1052801} \\ L. 5280 \text{ 2s.} \end{array}$$



Practice. value at 11d.  
 At 1s. 48 56s.  
 At 1d. =  $\frac{1}{12}$  404 8  
 —————  
 At 11d. 4451 4  
 L. 222 11 4

Meth. 2. Multiply the quantity by the number of pence, the product is the answer in pence. Reduce it to pounds.

Meth. 3. Find the value at a penny by division, and multiply the same by the number of pence.

CASE IV. "When the rate consists of farthings only, find the value in pence, and reduce it by division to pounds."

Ex. 1st. 37843 at 1 farthing. 2d. 23754 at  $\frac{1}{2}$ d.  
 4)37843 farth. 2)23754 halfpence  
 12)9460  $\frac{1}{4}$  pence 12)11877 pence  
 788 4  $\frac{1}{4}$  989 9  
 L. 39 8 4  $\frac{1}{4}$  L. 49 9 9  
 3d. 72564 at  $\frac{1}{4}$ d. Or, 72564  
 3

At  $\frac{1}{2}$ d. 3682 d.  
 4)217692 farth. At  $\frac{1}{4}$ d. 18141 d.  
 1)54423 pence  
 4535 3 12)54423 d.  
 L. 226 15 3 4535 3  
 L. 226 15 3

We may also find the amount in twopences, threepences, fourpences, or sixpences, by one division, and reduce these as directed in Case I.

CASE V. "When the rate consists of pence and farthings, find the value of the pence, as directed in Case III. and that of the farthings from the portion which they bear to the pounds. Add these together, and reduce."

Ex. 1st.] 3287 at  $5\frac{1}{4}$ d.

At 4d. =  $\frac{1}{3}$  of 1s. 1095 8  
 At 1d. =  $\frac{1}{3}$  of 4d. 273 11  
 At 1f. =  $\frac{1}{3}$  of 1d. 68 5  $\frac{1}{4}$

At  $5\frac{1}{4}$  1438  $\frac{3}{4}$   
 L. 71 18  $\frac{3}{4}$   
 2d.] 4573 at  $2\frac{1}{4}$ d.

At 2d. =  $\frac{1}{5}$  of 1s. 762 2  
 At  $\frac{1}{2}$ d. =  $\frac{1}{4}$  of 2d. 190 6  $\frac{1}{2}$   
 At  $\frac{1}{4}$ d. =  $\frac{1}{2}$  of  $\frac{1}{2}$ d. 85 3  $\frac{1}{4}$

At  $2\frac{1}{4}$  1037 11  $\frac{1}{4}$   
 L. 51 17 11  $\frac{1}{4}$   
 3d.] 2842 at  $3\frac{1}{4}$ d.

At 3d. =  $\frac{1}{4}$  of 1s. 710 6  
 At 3f. =  $\frac{1}{4}$  of 3d. 176 7  $\frac{1}{2}$

At  $3\frac{1}{4}$ d. 887 1  $\frac{1}{2}$   
 L. 44 8 1  $\frac{1}{2}$   
 4th.] 3572 at  $7\frac{1}{2}$ d.

At 6d. =  $\frac{1}{2}$  of 1s. 1386  
 At  $1\frac{1}{2}$ d. =  $\frac{1}{2}$  of 6d. 346 6

At  $7\frac{1}{2}$  1732 6  
 L. 87 12 6

It is sometimes best to join some of the pence with the farthings in the calculation. Thus, in Ex. 4. we reckon

the value at 6d. and at 3 halfpence, which makes  $7\frac{1}{2}$ d. Practice.  
 If the rate be  $1\frac{1}{2}$ d. which is an eighth part of a shilling, the value is found in shillings, by dividing the quantity by 8.

CASE VI. "When the rate consists of shillings and lower denominations."

Method 1. Multiply the quantity by the shillings, and find the value of the pence and farthings, if any, from the proportion which they bear to the shillings. Add and reduce.

Ex. 1st.] 4258 at 17s. 3d.

17  
 —————  
 29806  
 4258  
 —————  
 17s. 72386  
 3d. =  $\frac{1}{4}$  of 1s. 1064 6  
 —————  
 17s. 3d. 73450 6  
 L. 3672 10 6  
 2d.] 5482 at 12s. 4  $\frac{1}{2}$ d.  
 12

12s. 65784  
 3d. =  $\frac{1}{4}$  of 1s. 1370 6  
 1  $\frac{1}{2}$ d. =  $\frac{1}{2}$  of 3d. 685 3  
 —————  
 12s. 4  $\frac{1}{2}$ d. 67839 9  
 L. 3391 19 9

Method 2. Divide the rate into aliquot parts of a pound; calculate the values corresponding to these, as directed in Case I. and add them.

Ex. 1st.] 3894 at 17 6 s. d. 2d.] 1765 at 9 2 s. d.

10s. =  $\frac{1}{2}$  L. 1947 6s. 8d. =  $\frac{1}{3}$  L. 588 6 8  
 5 =  $\frac{1}{4}$  973 10 2 6 =  $\frac{1}{8}$  220 12 6  
 2 6d. =  $\frac{1}{4}$  486 15  
 9s. 2d. 808 19 2

17s. 6d. L. 3407 5  
 Sometimes part of the value is more readily obtained from a part already found; and sometimes it is easiest to calculate at a higher rate, and subtract the value at the difference.

3d.] 63790 at 5 4 s. d. 4th.] 3664 at 14 9 s. d.

4s. =  $\frac{1}{5}$  L. 12758 10s. =  $\frac{1}{2}$  L. 1832  
 1s. 4d. =  $\frac{1}{3}$  of 4s. 4252 13 4 5s. =  $\frac{1}{2}$  of 10s. 916

5s. 4d. L. 17010 13 4 15s. 2748  
 3d. =  $\frac{1}{6}$  of 5s. 45 16  
 14s. 9d. L. 2702 4

Method 3. If the price contain a composite number of pence, we may multiply the value at a penny by the component parts.

Ex. 5628 at 2s. 11d. or 35d.

12)5628  
 20) 469  
 L. 23 9  
 5  
 —————  
 L. 117 5  
 7  
 —————  
 L. 820 15



Practice. CASE VII. "When the rate consists of pounds and lower denominations."

Method 1. Multiply by the pounds, and find the value of the other denominations from the proportion which they bear to the pounds.

Ex. 1st.] 3592 at L. 3 : 12 : 8.

		3	
L. 3		10776	
12s. = $\frac{1}{4}$ of L. 3		2155 4	
8d. = $\frac{1}{6}$ of 12s.		119 14 8	
<hr/>			
L. 3 12 8		L. 13050 18 8	
		2d.] 543 at L. 2 : 5 : 10 $\frac{1}{2}$ .	
		2	

L. 2		1086	
5s. = $\frac{1}{4}$ of L. 1		135 15	
10d. = $\frac{1}{8}$ of 5s.		22 12 6	
$\frac{1}{2}$ d. = $\frac{1}{16}$ of 10d.		1 2 7 $\frac{1}{2}$	
<hr/>			
		L. 1245 10 1 $\frac{1}{2}$	

Method 2. Reduce the pounds to shillings, and proceed as in Case VI.

Ex. 1st.] 3592 at L. 3 : 12 : 8 2d.] 3683 at L. 2 : 4 : 11

	72	20	45
	7184	72	18415
	25144		24732
<hr/>			
	258624	At 45s.	165735
4d. = $\frac{1}{3}$ s.	1197 4	At 1d. = $\frac{1}{12}$ s.	307 11
4d. = $\frac{1}{3}$ s.	1197 4		
		44s. 11d.	165427 1
8d.	261018 8		L. 8271 7 1
	L. 13050 18 8		

The learner should at first try every calculation more ways than one; which will not only serve the purpose of proving the operation, but will render him expert at discovering the best method for solving each question, and will lead him to invent other methods; for we have not exhausted the subject.

Thus, if the number of articles be 20, each shilling of the rate makes a pound of the amount. If it be 12, each penny of the rate makes a shilling of the amount. If 240, each penny of the rate makes a pound of the amount. If 480, each halfpenny makes a pound. If 960, each farthing makes a pound. If the number of articles be a multiple, or an aliquot part of any of these, the amount is easily calculated. And if it be near to any such number, we may calculate for that number, and add or subtract for the difference.

We have hitherto explained the various methods of computation, when the quantity is a whole number, and in one denomination. It remains to give the proper directions when the quantity contains a fraction, or is expressed in several denominations.

When the quantity contains a fraction, work for the integers by the preceding rules, and for the fraction take proportional parts.

When the quantity is expressed by several denominations, and the rate given for the higher; calculate the higher, consider the lower ones as fractions, and work by the last rule.

When the rate is given for the lower denomination, reduce the higher denomination to the lower, and calculate accordingly.

Note 1st, 7 lb. 14 lb. and 21 lb. are aliquot parts of 1 qr. : and 16 lb. is  $\frac{1}{2}$  of 1 cwt. ; and are therefore easily calculated.

2d, If the price of a dozen be so many shillings, that of an article is as many pence; and if the price of a gross be so many shillings, that of a dozen is as many pence.

3d, If the price of a ton or score be so many pounds, that of 1 cwt. or a single article, is as many shillings.

4th, Though a fraction less than a farthing is of no consequence, and may be rejected, the learner must be careful lest he lose more than a farthing, by rejecting several remainders in the same calculation.

SECT. II. DEDUCTIONS ON WEIGHTS, &c.

The full weight of any merchandise, together with that of the cask, box, or other package, in which it is contained, is called the *gross weight*. From this we must make proper deductions, in order to discover the quantity, for which price or duty should be charged, which is called the *nett weight*.

Tare is the allowance for the weight of the package; and this should be ascertained by weighing it before the goods are packed. Sometimes, however, particularly in payment of duty, it is customary to allow so much per C. or so much per 100 lb. in place of tare.

Tret is an allowance of 4 lb. on 104 granted on currants, and other goods on which there is waste, in order that the weight may answer when the goods are retailed.

Cloff, or Draught, is a further allowance granted on some goods in London, of 2 lb. on every 3 C. to turn the scale in favour of the purchaser. The method of calculating these and the like will appear from the following examples.

Ex. 1st, What is the nett weight of 17 C. 2 q. 14lb. tare 18 lb. per cwt.

	C. q. lb.	C. q. lb.
	17 2 14 gross.	or 17 2 14
		6
16lb. = $\frac{1}{4}$ C.	2 2 2	—
2lb. = $\frac{1}{8}$ of 16lb.	1 7	105 3 —
18lb.	2 3 9 $\frac{1}{4}$ tare.	3
		317 1
	14 3 4 $\frac{1}{4}$ nett.	28) 317 $\frac{1}{4}$ lb. C. q. lb.

In the first method, we add the tare at 16 lb. which is  $\frac{1}{4}$  of the gross weight, to the tare, at 2 lb. which is  $\frac{1}{8}$  of the former. In the second, we multiply the gross weight by 18; the tare is 1 lb. for each cwt. of the product, and is reduced by division to higher denominations.

2d.] What is tret of 158 C. 2 q. 24 lb. ?

	C. q. lb.	C. q. lb.
26) 158 2	26 ( 6	— 11 Tret.
	156	

Because tret is always 4 lb. in 104, or 1 lb. in 26, it is obtained by dividing by 26.

2
4
—
10
28
—
286
286
—
0

3d.]



3d.] What is the cloff on 28 C. 2 q. ?

C. q.  
28 2  
2

3) 57 (19 lb.

This allowance being 2 lb. on every 3 C. might be found by taking  $\frac{2}{3}$  of the number of C's and multiplying it by 2. It is better to begin with multiplication, for the reason given, p. 633. col. 2. par. 1.

SECT. III. COMMISSION, &c.

It is frequently required to calculate allowances on sums of money, at the rate of so many per 100. Of this kind is COMMISSION, or the allowance due to a factor for buying or selling goods, or transacting any other business; PREMIUM OF INSURANCE, or allowance given for engaging to repay one's losses at sea, or otherwise; EXCHANGE, or the allowance necessary to be added or subtracted for reducing the money of one place to that of another; PREMIUMS ON STOCK, or the allowance given for any share of a public stock above the original value. All these and others of a like kind are calculated by the following

RULE. "Multiply the sum by the rate, and divide the product by 100. If the rate contain a fraction, take proportional parts."

Ex. What is the commission on 728l. at  $2\frac{1}{4}$  per cent ?

728  
2  
-----  
1456  
2 per cent. 1456  
 $\frac{1}{4}$  364  
 $\frac{1}{4}$  182  
-----  
1|00)20|02  
20  
-----  
40  
12  
-----  
4|80  
4 Anfw. L. 20 — 4 $\frac{1}{4}$   
-----  
3|20

When the rate is given in guineas, which is common in cases of insurance, you may add a twentieth part to the sum before you calculate. Or you may calculate at an equal number of pounds, and add a twentieth part to the answer.

When the given sum is an exact number of 10 pounds, the calculation may be done without setting down any figures. Every 10l. at  $\frac{1}{2}$  per cent. is a shilling; and at other rates in proportion. Thus, 170l. at  $\frac{1}{2}$  per cent. is 17s.; and, at  $\frac{1}{4}$  per cent. 8s. 6d.

SECT. IV. INTEREST.

Interest is the allowance given for the use of money by the borrower to the lender. This is computed at so many pounds for each hundred lent for a year, and a like proportion for a greater or a less time. The highest rate is limited by our laws to 5 per cent. which is called the legal interest; and is due on all debts constituted by bond or bill, which are not paid at the proper term, and is always understood when no other rate is mentioned.

The interest of any sum for a year, at any rate, is found by the method explained in the last section. Practice.

The interest of any number of pounds for a year, at 5 per cent. is one twentieth part, or an equal number of shillings. Thus, the interest of 34675l. for a year is 34675 shillings.

The interest for a day is obtained by dividing the interest for a year, by the number of days in a year. Thus, the interest of 34675l. for a day is found by dividing 34675 shillings by 365, and comes to 95 shillings.

The interest for any number of days is obtained by multiplying the daily interest by the number of days. Thus the interest of 34675l. for 17 days, is 17 times 95 shillings, or 1615 shillings; and this divided by 20, in order to reduce it, comes to 80l. 15s.

It would have served the same purpose, and been easier to multiply at first by 17, the number of days; and, instead of dividing separately by 365, and by 20, to divide at once by 7300, the product of 365 multiplied by 20; and this division may be facilitated by the table inserted p. 631. col. 1.

The following practical rules may be inferred from the foregoing observations.

I. To calculate interest at 5 per cent. "Multiply the principal by the number of days, and divide the product by 7300."

II. To calculate interest at any other rate. "Find what it comes to at 5 per cent. and take a proper portion of the same for the rate required."

Ex. 1st. Interest on 34675l. for 17 days, at 5 per cent.

34675  
17  
-----  
242725  
34675  
-----  
73|00)5894|75(80 15  
584  
-----  
5475  
20  
-----  
1095|00  
73  
-----  
365  
365  
-----  
0

Ex. 2d. Interest on 304l. 3s. 4d. for 8 days, at 4 per cent.

L. 304 3 4  
8  
-----  
73|00)2433 6 8(6 8  
20  
-----  
486|66  
438  
-----  
4866  
12  
-----  
584|00  
584  
-----  
0



Practice. Int. at 5 per cent. L. — 6 8  
Deduce  $\frac{1}{5}$  — 1 4

Int. at 4 per cent. L. — 5 4

When partial payments are made, we proceed in the following manner: Let us suppose a bill of 170l. was due 12th August, that 54l. was paid on the 18th September, 56l. on the 17th October, and the balance on the 14th November; and let it be required to find how much interest is due.

	Days.		
Aug. 12. L. 170	37	1190	
Sept. 18. pd. 54		510	
			6290
	116 29	1044	
Oct. 17. pd. 56		232	
			3364
	60 28	1680	
Nov. 14. pd. 60			
			7300
			11334 (L. 1 : 11 : $\frac{1}{5}$ )

Here we subtract the several payments from the original sum in their order, placing the dates in the margin; and from this it appears that there is interest due on 170l. from 12th August to 18th September, on 110l. from 18th September to 17th October, and on 60l. from 17th October to 14th November. We next compute the number of days in each of these periods, and mark it against the respective sum. Then we multiply each sum by the number of days; reserving a column, when necessary, for the products of the several figures in the multiplier. Lastly, We add these products, and divide their sum by 7300.

Interest on current accounts is calculated nearly in the same manner. For example, let the interest due on the following account be required to 31st July, at 4 per cent.

Dr. Mr A. Baird, his account current with W. Neil, Cr.

1775. Jan. 15. To cash L. 160  
Mar. 12. To ditto 36  
June 23. To ditto 13 4 6  
July 19. To ditto 26 13 4

1775. Mar. 22. By cash L. 50  
May 16. By ditto 37  
June 15. By ditto 25 12 6  
28. By ditto 32 5 4

1775.	L.	s.	d.	Days	
Jan. 15.	Dr. 160			56	960
Mar. 12.	Dr. 36				800
					8960
22.	Dr. 196			10	1960
	Cr. 50				
					1960
May 16.	Dr. 146			55	730
	Cr. 37				730
					8030
June 15.	Dr. 109			30	3270
	Cr. 25 12 6				
					3270
23.	Dr. 83 7 6			8	667
	Dr. 13 4 6				
					667
28.	Dr. 96 12			5	483
	Cr. 32 5 4				
					483
July 19.	Dr. 64 6 8			21	64
	Dr. 26 13 4				1287
					1351
31.	91			12	1092
					197730025813 (L. 3 10 $8\frac{1}{2}$ at
					Deduce $\frac{1}{5}$ part 14 $1\frac{1}{2}$

Interest at 4 per cent. L. 2 16 7

Here the sums on either side of the account are introduced according to the order of their dates. Those on the Dr. side are added to the former balance, and those on the Cr. side subtracted. Before we calculate the days, we try if the last sum 91l. be equal to the balance of the account, which proves the additions and subtractions; and, before multiplying, we try if the sum of the column of days be equal to the number of days, from 15th January to 31st of July.

In the 5th and 6th multiplications, we begin at the pence column, and take in the carriage. In the 7th, instead of multiplying the 6s. 8d. by 21, we add the third part 21 to the product, because 6s. 8d. is the third of a pound. This is done by marking down the second line 1287, instead of 1280. As the computation on the odd shillings and pence is troublesome, and makes a very small increase of the interest, some neglect them altogether; others add one to the pound, when the shillings exceed 10, and neglect them when below it.

2d.] Required interest on the following account to 31st December, allowing 5 per cent. when the balance is due to J. T. and 4 per cent when due to N. W.

Dr. Mr. J. T. his account current with N. W. Cr.  
Dec. 31. To balance L. 150  
Mar. 12. To cash 120  
June 17. To cash 165  
Sept. 24. To cash 242  
Oct. 9. To cash 178

April 9. By cash L. 70  
May 12. By cash 300  
June 3. By cash 240  
Aug. 2. By cash 10

	L.	Days	
1775. Dec. 31. Dr. 150		71	150
1776. Mar. 12. Dr. 120			1050
			2160
April 9. Dr. 270		28	540
			7560
May 12. Dr. 200		33	
			6600
June 3. Cr. 100		22	
			2200
June 3. Cr. 240			
			4760
17. Cr. 340		14	1360
			340
Aug. 2. Cr. 175		46	1050
			700
			8050
Sept. 24. Cr. 185		53	555
			925
			9805
Oct. 9. Dr. 57		15	285
			57
			855
Dec. 31. Dr. 235		83	705
			1880
			19505
			7300
			45170
			24815

Interest due to N. W. at 5 per cent. L. 6 8 9  
Deduce  $\frac{1}{5}$  - - - 1 5 5

Due to N. W. at 4 per cent. L. 5 3 4  
Due to J. T. at 5 per cent. 3 7 11  $\frac{1}{2}$

Balance due to N. W. L. 1 15 4  $\frac{1}{2}$   
4 M In



Interest.

In this account, the balance is sometimes due to the one party, sometimes to the other. At the beginning, there is a balance due to N. W.; and, on the 9th of April there is 200l. due him. On the 12th of May, J. T. pays him 300l. which discharges what he owed, and leaves a balance of 100l. due him. The balance continues in J. T.'s favour till the 24th of September, when N. W. pays 242l. These changes are distinguished by the marks Dr. and Cr. The products are extended in different columns, and divided separately.

When payments are made on constituted debts, at considerable distances of time, it is usual to calculate the interest to the date of each payment, and add it to the principal, and then subtract the payment from the amount.

Ex. A bond for 540l. was due the 18th Aug. 1772; and there was paid 19th March 1773 50l.; and 19th December 1773 25l.; and 23d September 1774 25l.; and 18th August 1775 110l. Required the interest and balance due on the 11th November 1775?

A bond due 13th August 1772	L. 540		
Interest to 19th March 1773, 218 days	16	2	6
	<hr/>		
Paid 19th March 1773	L. 556	2	6
	50		
	<hr/>		
Balance due 16th March 1773	L. 506	2	6
Interest to 19th December 1773, 272 days	19	1	2
	<hr/>		
Paid 19th December 1773	L. 525	3	8
	25		
	<hr/>		
Balance due 19th December 1773	L. 500	3	8
Interest to 23d September 1774, 278 days	19	0	9
	<hr/>		
Paid 23d September 1774	L. 519	4	5
	25		
	<hr/>		
Balance due 23d September 1774	L. 494	4	5
Interest to 18th August 1775, 329 days	22	5	3
	<hr/>		
Paid 18th August 1775	L. 516	9	8
	110		
	<hr/>		
Balance due 18th August 1775	L. 406	9	8
Interest to 11th November 1775, 85 days	4	14	6
	<hr/>		
Balance due 11th November 1775	L. 411	4	2
Amount of the interest	L. 81	4	2

CHAP. VIII. VULGAR FRACTIONS.

In order to understand the nature of vulgar fractions, we must suppose unity (or the number 1) divided into several equal parts. One or more of these parts is called a *fraction*, and is represented by placing one number in a small character above a line, and another under it: For example, two-fifth parts is written thus,  $\frac{2}{5}$ . The number under the line (5) shows how many parts unity is divided into, and is called the *denominator*. The number above the line (2) shows how many of these parts are represented, and is called the *numerator*.

It follows from the manner of representing fractions, that, when the numerator is increased, the value of the fraction becomes greater; but, when the denominator is increased, the value becomes less. Hence we may infer, that, if the numerator and denominator be both increased, or both diminished, in the same proportion, the value is not altered; and therefore, if we multiply

both by any number whatever, or divide them by any number which measures both, we shall obtain other fractions of equal value. Thus, every fraction may be expressed in a variety of forms, which have all the same signification.

Vulgar Fractions.

A fraction annexed to an integer, or whole number, makes a mixed number. For example, five and two third-parts, or  $5\frac{2}{3}$ . A fraction whose numerator is greater than its denominator is called an *improper fraction*. For example, seventeen third-parts, or  $\frac{17}{3}$ . Fractions of this kind are greater than unity. Mixed numbers may be represented in the form of improper fractions, and improper fractions may be reduced to mixed numbers, and sometimes to integers. As fractions whether proper or improper may be represented in different forms, we must explain the method of reducing them from one form to another, before we consider the other operations.

PROBLEM I. "To reduce mixed numbers to improper fractions; Multiply the integer by the denominator of the fraction, and to the product add the numerator. The sum is the numerator of the improper fraction sought, and is placed above the given denominator."

Ex.  $5\frac{2}{3} = \frac{17}{3}$

5	integer.
3	denominator.
<hr/>	
15	product.
2	numerator given.
<hr/>	
17	numerator sought.

Because one is equal to two halves, or 3 third-parts, or 4 quarters, and every integer is equal to twice as many halves, or four times as many quarters, and so on; therefore, every integer may be expressed in the form of an improper fraction, having any assigned denominator: The numerator is obtained by multiplying the integer into the denominator. Hence the reason of the foregoing rule is evident. 5, reduced to an improper fraction, whose denominator is 3, makes  $\frac{15}{3}$ , and this added to  $\frac{2}{3}$ , amounts to  $\frac{17}{3}$ .

PROBLEM II. "To reduce improper fractions to whole or mixed numbers: Divide the numerator by the denominator."

Ex.  $\frac{112}{7} = 16\frac{0}{7}$

17	112	(6 $\frac{10}{7}$ )	1.	$\frac{3248}{10}$	5.	$\frac{365}{15}$
	102		2.	$\frac{342}{12}$	6.	$\frac{7104}{12}$
	<hr/>		3.	$\frac{7516}{27}$	7.	$\frac{8642}{93}$
	10		4.	$\frac{15764}{328}$	8.	$\frac{4362}{218}$

This problem is the converse of the former, and the reason may be illustrated in the same manner.

PROBLEM III. "To reduce fractions to lower terms: Divide both numerator and denominator by any number which measures both, and place the quotients in the form of a fraction."

Example.  $\frac{135}{300} = \frac{27}{72} = \frac{3}{8}$

Here we observe that 135 and 300 are both measured by 5, and the quotients form  $\frac{27}{72}$ , which is a fraction of the same value as  $\frac{135}{300}$  in lower terms. Again, 27 and 72 are both measured by 9, and the quotients form  $\frac{3}{8}$ , which is still of equal value, and in lower terms.

It is generally sufficient, in practice, to divide by such measures as are found to answer on inspection, or by the rules given p. 629. col. 2. But, if it be required to reduce a fraction to the lowest possible terms, we must divide



Vulgar Fractions.

vide the numerator and denominator by the greatest number which measures both. What number this is may not be obvious, but will always be found by the following rule.

To find the greatest common measure of two numbers, divide the greater by the lesser, and the divisor by the remainder continually, till nothing remain; the last divisor is the greatest common measure.

*Example.* Required the greatest number which measures 475 and 589?

$$\begin{array}{r}
 475 \overline{)589} \text{ (1)} \\
 \underline{475} \\
 114 \overline{)475} \text{ (4)} \\
 \underline{456} \\
 19 \overline{)114} \text{ (6)} \\
 \underline{114} \\
 0
 \end{array}$$

Here we divide 589 by 475, and the remainder is 114; then we divide 475 by 114, and the remainder is 19; then we divide 114 by 19, and there is no remainder: from which we infer, that 19, the last divisor, is the greatest common measure.

To explain the reason of this, we must observe, that any number which measures two others, will also measure their sum, and their difference, and will measure any multiple of either. In the foregoing example, any number which measures 589, and 475, will measure their difference 114, and will measure 456, which is a multiple of 114; and any number which measures 475, and 456, will also measure their difference 19. Consequently, no number greater than 19 can measure 589 and 475. Again, 19 will measure them both, for it measures 114, and therefore measures 456, which is a multiple of 114, and 475, which is just 19 more than 456; and, because it measures 475 and 114, it will measure their sum 589. To reduce  $\frac{475}{589}$  to the lowest possible terms, we divide both by numbers 19, and it comes to  $\frac{25}{31}$ .

If there be no common measure greater than 1, the fraction is already in the lowest terms.

If the greatest common measure of 3 numbers be required, we find the greatest measure of the two first, and then the greatest measure of that number, and the third. If there be more numbers, we proceed in the same manner.

**PROBLEM IV.** "To reduce fractions to others of equal value that have the same denominator: 1st, Multiply the numerator of each fraction by all the denominators except its own. The products are numerators to the respective fractions sought." 2d, Multiply all the denominators into each other; the product is the common denominator."

*Ex.*  $\frac{4}{9}$  and  $\frac{7}{9}$  and  $\frac{3}{8} = \frac{288}{360}$  and  $\frac{288}{360}$  and  $\frac{135}{360}$ .

$4 \times 9 \times 8 = 288$  first numerator.

$7 \times 5 \times 8 = 280$  second numerator.

$3 \times 5 \times 9 = 135$  third numerator.

$5 \times 9 \times 8 = 360$  common denominator.

Here we multiply 4, the numerator of the first fraction, by 9 and 3 the denominators of the two others; and the product 288 is the numerator of the fraction sought, equivalent to the first. The other numerators are found in like manner, and the common denominator 360, is obtained by multiplying the given denominators 5, 9, 8, into each other. In the course of the whole operation, the numerators and denominators of each fraction are multiplied by the same number, and therefore their value is not altered.

Vulgar Fractions

The fractions thus obtained may be reduced to lower terms, if the several numerators and denominators have a common measure greater than unity. Or, after arranging the number for multiplication, as is done above, if the same number occur in each rank, we may dash them out and neglect them; and, if numbers which have a common measure occur in each, we may dash them out and use the quotients in their stead; or any number which is a multiple of all the given denominators, may be used as a common denominator. Sometimes a number of this kind will occur on inspection, and the new numerators are found by multiplying the given ones by the common denominator, and dividing the products by the respective given denominators.

If the articles given for any operation be mixed numbers, they are reduced to improper fractions by Problem I. If the answer obtained be an improper fraction, it is reduced to a mixed number by Problem II. And, it is convenient to reduce fractions to lower terms, when it can be done, by Problem III. which makes their value better apprehended, and facilitates any following operation. The reduction of fractions to the same denominator by Problem IV. is necessary to prepare them for addition or subtraction, but not for multiplication or division.

I. ADDITION of VULGAR FRACTIONS.

22

**RULE.** "Reduce them, if necessary, to a common denominator; add the numerators, and place the sum above the denominator."

*Ex.* 1st.  $\frac{1}{5} + \frac{2}{5} = \frac{27}{45} + \frac{10}{45}$  by Problem IV.  $= \frac{37}{45}$   
 2d.  $\frac{1}{7} + \frac{8}{9} + \frac{10}{10} = \frac{450}{630} + \frac{560}{630} + \frac{630}{630} = \frac{1640}{630}$   
 By Problem II.  $= 3\frac{17}{63}$

The numerators of fractions that have the same denominator signify like parts; and the reason for adding them is equally obvious, as that for adding shillings or any other inferior denomination.

Mixed numbers may be added, by annexing the sum of the fractions to the sum of the integers. If the former be a mixed number, its integer is added to the other integers.

2. SUBTRACTION of VULGAR FRACTIONS.

23

**RULE.** "Reduce the fractions to a common denominator; subtract the numerator of the subtrahend from the numerator of the minuend, and place the remainder above the denominator."

*Ex.* Subtract  $\frac{2}{7}$  from  $\frac{1}{2}$  remainder  $\frac{1}{14}$ .  
 $\frac{5}{7} = \frac{35}{49}$  } by Prob. IV. from 35  
 $\frac{2}{7} = \frac{14}{49}$  } take 24  
 rem. 11.

To subtract a fraction from an integer: subtract the numerator from the denominator, and place the remainder above the denominator; prefix to this the integer diminished by unity.

*Ex.* Subtract  $\frac{2}{7}$  from 12. remainder  $11\frac{5}{7}$ .

To subtract mixed numbers, proceed with the fractions by the foregoing rule, and with the integers in the common method. If the numerator of the fraction in the subtrahend exceed that in the minuend, borrow the value of the denominator, and repay it by adding 1 to the unit place of the subtrahend.



Ex. Subtract  $145\frac{7}{9}$  from  $248\frac{3}{5}$

$$\begin{array}{r} 248\frac{3}{5} \\ 145\frac{7}{9} \\ \hline 102\frac{37}{45} \end{array}$$

by Prob. IV.

Here, because 27 the numerator of the fraction in the minuend is less than 35, the numerator of the subtrahend, we borrow 45 the denominator; 27 and 45 make 72, from which we subtract 35, and obtain 37 for the numerator of the fraction in the remainder, and we repay what was borrowed, by adding 1 to 5 in the unit place of the subtrahend.

The reason of the operations in adding or subtracting fractions will be fully understood, if we place the numerators of the fractions in a column like a lower denomination, and add or subtract them as integers, carrying or borrowing according to the value of the higher denomination.

24 3. MULTIPLICATION OF VULGAR FRACTIONS.

RULE. "Multiply the numerators of the factors together for the numerator of the product, and the denominators together for the denominator of the product."

Ex. 1st.]  $\frac{2}{3} \times \frac{5}{7} = \frac{10}{21}$       2d.]  $8\frac{2}{5} \times 7\frac{3}{4} = 1\frac{10}{25} \times 65\frac{3}{4}$   
 $2 \times 5 = 10$  num.       $8\frac{2}{5} = \frac{42}{5}$  by Prob. I.  
 $3 \times 7 = 21$  den.       $7\frac{3}{4} = \frac{31}{4}$  by ditto.  
 $42 \times 31 = 1302$   
 $5 \times 4 = 20$

To multiply  $\frac{2}{3}$  by  $\frac{5}{7}$  is the same, as to find what two third parts of  $\frac{5}{7}$  comes to; if one-third part only had been required, it would have been obtained by multiplying the denominator 7 by 3, because the value of fractions is lessened when their denominators are increased; and this comes to  $\frac{10}{21}$ ; and, because two thirds were required, we must double that fraction, which is done by multiplying the numerator by 2, and comes to  $\frac{20}{21}$ . Hence we infer, that fractions of fractions, or compound fractions, such as  $\frac{2}{3}$  of  $\frac{5}{7}$  are reduced to simple ones by multiplication. The same method is followed when the compound fraction is expressed in three parts or more.

If a number be multiplied by any integer, its value is increased: If it be multiplied by 1, or taken one time, it undergoes no alteration. If it be multiplied by a proper fraction, or taken for one half, two thirds, or the like, its value is diminished, and the product is less than the number multiplied.

The foregoing rule extends to every case, when there are fractions in either factor. For mixed numbers may be reduced to improper fractions, as is done in Ex. 2d.; and integers may be written, or understood to be written in the form of fractions whose numerator is 1. It will be convenient, however, to give some further directions for proceeding, when one of the factors is an integer, or when one or both are mixed numbers.

1st, To multiply an integer by a fraction, multiply it by the numerator, and divide the product by the denominator. Ex.  $3756 \times \frac{3}{5} = 2253\frac{3}{5}$

$$\begin{array}{r} 3756 \\ \times 3 \\ \hline 11268 \end{array} \quad \begin{array}{r} 2253 \\ \times 3 \\ \hline 6759 \end{array}$$

2d, To multiply an integer by a mixed number, we multiply it first by the integer, and then by the fraction, and add the products.

Ex.  $138 \times 5\frac{1}{4} = 793\frac{3}{4}$

$$\begin{array}{r} 138 \times 5 = 690 \\ 138 \times \frac{1}{4} \\ \hline 3 \\ \hline 4)114( \\ \hline 103\frac{1}{2} \\ \hline 793\frac{3}{4} \end{array}$$

3d, To multiply a mixed number by a fraction, we may multiply the integer by the fraction, and the two fractions together, and add the products.

Ex.  $15\frac{3}{8} \times \frac{2}{9} = 3\frac{5}{12}$

$$\begin{array}{r} 15 \times \frac{2}{9} = 3\frac{1}{3} \\ \frac{3}{8} \times \frac{2}{9} = \frac{1}{12} \\ \hline 3\frac{5}{12} \end{array}$$

4th, When both factors are mixed numbers, we may multiply each part of the multiplicand first by the integer of the multiplier, and then by the fraction, and add the four products.

Ex.  $8\frac{2}{5}$  by  $7\frac{3}{4}$

$$\begin{array}{r} 8 \times 7 = 56 \\ 8 \times \frac{3}{4} = 6 \\ \frac{2}{5} \times 7 = 2\frac{2}{5} \\ \frac{2}{5} \times \frac{3}{4} = \frac{6}{20} \\ \hline 65\frac{2}{5} \end{array}$$

by Prob. II.

product  $65\frac{2}{5}$  as before.

4. DIVISION OF VULGAR FRACTIONS.

RULE I. "Multiply the numerator of the dividend by the denominator of the divisor. The product is the numerator of the quotient."

II. "Multiply the denominator of the dividend by the numerator of the divisor. The product is the denominator of the quotient."

Ex. Divide  $\frac{2}{3}$  by  $\frac{7}{9}$       Quotient  $\frac{3}{7}$

$$\begin{array}{r} 2 \times 9 = 18 \\ 5 \times 7 = 35 \end{array}$$

To explain the reason of this operation, let us suppose it required to divide  $\frac{2}{3}$  by  $\frac{7}{9}$ , or to take one seventh part of that fraction. This is obtained by multiplying the denominator by 7; for the value of fractions is diminished by increasing their denominators, and comes to  $\frac{14}{21}$ . Again, because  $\frac{2}{3}$  is nine times less than seven, the quotient of any number divided by  $\frac{7}{9}$  will be nine times greater than the quotient of the same number divided by 7. Therefore we multiply  $\frac{14}{21}$  by 9, and obtain  $\frac{126}{21}$ .

If the divisor and dividend have the same denominator, it is sufficient to divide the numerators.

Ex.  $\frac{1}{7}$  divided by  $\frac{3}{7}$  quotes 4.

The quotient of any number divided by a proper fraction is greater than the dividend. It is obvious, that any integer contains more halves, more third parts, and the like, than it contains units; and, if an integer and fraction be divided alike, the quotients will have the same proportion to the numbers divided; but the value of an integer is increased when the divisor is a proper fraction; therefore, the value of a fraction in the like case is increased also.

The foregoing rule may be extended to every case, by reducing integers and mixed numbers to the form of improper fractions. We shall add some directions for shortening the operation when integers and mixed numbers are concerned.

1st, When the dividend is an integer, multiply it by



Vulgar Fractions. by the denominator of the divisor, and divide the product by the numerator.

Ex. Divide 368 by  $\frac{5}{7}$

$5 \overline{)2576}$  ( $515\frac{2}{5}$  quotient.)

2d, When the divisor is an integer, and the dividend a fraction, multiply the denominator by the divisor, and place the product under the numerator.

Ex. Divide  $\frac{1}{3}$  by 5 quotient  $\frac{1}{15}$   
 $8 \times 5 = 40$

3d, When the divisor is an integer, and the dividend a mixed number, divide the integer, and annex the fraction to the remainder; then reduce the mixed number, thus formed, to an improper fraction, and multiply its denominator by the divisor.

Ex. To divide  $576\frac{4}{7}$  by 7 quotient  $82\frac{4}{7}$

$$\begin{array}{r} 7 \overline{)576} \quad (82 \\ \underline{56} \phantom{0} \\ 16 \phantom{0} \\ \underline{14} \phantom{0} \\ 24 \phantom{0} \\ \underline{21} \phantom{0} \\ 3 \phantom{0} \end{array}$$

Here we divide 576 by 7, the quotient is 82, and the remainder 2, to which we annex the fraction  $\frac{4}{7}$ ; and reduce  $2\frac{4}{7}$  to an improper fraction  $\frac{18}{7}$ , and multiply its denominator by 7, which gives  $\frac{126}{7}$ .

Hitherto we have considered the fractions as abstract numbers, and laid down the necessary rules accordingly. We now proceed to apply these to practice. Shillings and pence may be considered as fractions of pounds, and lower denominations of any kind as fractions of higher; and any operation, where different denominations occur, may be wrought by expressing the lower ones in the form of vulgar fractions, and proceeding by the foregoing rules. For this purpose the two following problems are necessary.

PROBLEM V. "To reduce lower denominations to fractions of higher, place the given number for the numerator, and the value of the higher for the denominator."

Examples.

1. Reduce 7d. to the fraction of a shilling. Anf.  $\frac{7}{12}$ .
2. Reduce 7d. to a fraction of a pound. Anf.  $\frac{7}{240}$ .
3. Reduce 15s. 7d. to a fraction of a pound. Anf.  $\frac{31}{48}$ .

PROBLEM VI. "To value fractions of higher denominations, multiply the numerator by the value of the given denomination, and divide the product by the denominator; if there be a remainder, multiply it by the value of the next denomination, and continue the division."

Ex. 1st.] Required the value of  $\frac{1}{30}$  of 1l.

$$\begin{array}{r} 17 \\ 20 \\ \hline 300 \\ \hline 40 \\ 12 \\ \hline 60 \overline{)340} \quad (5 \quad 8 \\ \underline{300} \\ 40 \\ 12 \\ \hline 60 \overline{)480} \\ \underline{480} \\ 0 \end{array}$$

2d.] Required the value of  $\frac{8}{9}$  of 1 cwt.

$$\begin{array}{r} 8 \\ 4 \\ \hline 9 \overline{)32} \quad (3 \quad 15 \frac{2}{9} \\ \underline{27} \\ 5 \\ 28 \\ \hline 9 \overline{)140} \\ \underline{90} \\ 50 \\ 45 \\ \hline 5 \end{array}$$

In the first example, we multiply the numerator 17 by 20, the number of shillings in a pound, and divide the product 340 by 60, the denominator of the fraction, and obtain a quotient of 5 shillings; then we multiply the remainder 40 by 12, the number of pence in a shilling, which produces 480, which divided by 60 quotes 8d. without a remainder. In the second example we proceed in the same manner; but as there is a remainder, the quotient is completed by a fraction.

Sometimes the value of the fraction does not amount to an unit of the lowest denomination; but it may be reduced to a fraction of that or any other denomination, by multiplying the numerator according to the value of the places. Thus  $\frac{1}{1280}$  of a pound is equal to  $\frac{2}{1280}$  of a shilling, or  $\frac{4}{1280}$  of a penny, or  $\frac{8}{1280}$  of a farthing.

CHAP. IX. DECIMAL FRACTIONS.

SECT. I. NOTATION and REDUCTION.

THE arithmetic of vulgar fractions is tedious, and even intricate to beginners. The difficulty arises chiefly from the variety of denominators; for when numbers are divided into different kinds of parts, they cannot be easily compared. This consideration gave rise to the invention of decimal fractions, where the units are divided into like parts, and the divisions and subdivisions are regulated by the same scale which is used in the arithmetic of integers. The first figure of a decimal fraction signifies tenth parts, the next hundredth parts, the next thousandth parts, and so on: and the columns may be titled accordingly. Decimals are distinguished by a point, which separates them from integers, if any be prefixed.

The use of cyphers in decimals, as well as in integers, is to bring the significant figures to their proper places, on which their value depends. As cyphers, when placed on the left hand of an integer, have no signification, but when placed on the right hand, increase the value ten times each; so cyphers, when placed on the right hand of a decimal, have no signification; but when placed on the left hand diminish the value ten times each.

The notation and numeration of decimals will be obvious from the following examples.

- 4.7 signifies Four, and seven tenth parts.
- .47 Four tenth parts, and seven hundredth parts, or 47 hundredth parts.
- .047 Four hundredth parts, and seven thousandth parts, or 47 thousandth parts.
- .407 Four tenth parts, and seven thousandth parts, or 407 thousandth parts.
- 4.07 Four, and seven hundredth parts.
- 4.007 Four, and seven thousandth parts.

The column next the decimal point is sometimes called *decimal primes*, the next *decimal seconds*; and so on.

To reduce vulgar fractions to decimal ones: "Annex a cypher to the numerator, and divide it by the denominator, annexing a cypher continually to the remainder."

Ex.



Decimal Fractions.	Ex. 1st.] $\frac{1}{7} = .16$ 75)120(16 75	2d.] $\frac{5}{84} = .078125$ 64)500(078125 448	3d.] $\frac{2}{3} = .666$ 3)20(666 18
	450	520	*20
	450	512	18
	0	80	20
		64	18
		160	20
		128	
		320	
		320	

4th.] $\frac{5}{8} = .833$ 6)50(83 48	5th.] $\frac{7}{27} = .259$ 27)70(259 54	6th.] $\frac{7}{22} = .3, 18, 18,$ 22)70(31818 66
*20	160	*40
18	135	22
20	250	180
18	243	176
20	*70	*40
		22
		180

The reason of this operation will be evident, if we consider that the numerator of a vulgar fraction is understood to be divided by the denominator; and this division is actually performed when it is reduced to a decimal.

In like manner, when there is a remainder left in division, we may extend the quotient to a decimal, instead of completing it by a vulgar fraction, as in the following example.

25)646( $25\frac{2}{5}$ or 25.84.
50
146
125
Rem. 21.0
200
100
100
0

From the foregoing examples, we may distinguish the several kinds of decimals. Some vulgar fractions may be reduced exactly to decimals, as Ex. 1st and 2d, and are called *terminate* or *finite decimals*. Others cannot be exactly reduced, because the division always leaves a remainder; but, by continuing the division, we will perceive how the decimal may be extended to any length whatever. These are called *infinite decimals*. If the same figure continually returns, as in Ex. 3d and 4th, they are called *repeaters*. If two or more figures return in their order, they are called *circulates*. If this regular succession go on from the beginning, they are called *pure repeaters*, or *circulates*,

as Ex. 3d and 5th. If otherwise, as Ex. 4th and 6th, they are mixed repeaters or circulates, and the figures prefixed to those in regular succession are called the *finite part*. Repeating figures are generally distinguished by a dash, and circulates by a comma, or other mark, at the beginning and end of the circle; and the beginning of a repeater or circulate is pointed out in the division by an asterisk.

Lower denominations may be considered as fractions of higher ones, and reduced to decimals accordingly. We may proceed by the following rule, which is the same, in effect, as the former.

To reduce lower denominations to decimals of higher: "Annex a cypher to the lower denomination, and divide it by the value of the higher. When there are several denominations begin at the lowest, and reduce them in their order."

Ex. To reduce 5 cwt. 2 qr. 21 lb. to a decimal of a ton?

28)210(.75	4)2.75(.6875	20)5.6874(.284375
196	24	40
140	35	168
140	32	160
0	30	87
	28	80
	20	75
	20	60
	0	150
		140
		100
		100
		0

Here, in order to reduce 21lb. to a decimal of 1 qr. we annex a cypher, and divide by 28, the value of 1 qr. This gives .75. Then we reduce 2.75 qrs. to a decimal of 1 cwt. by dividing by 4, the value of 1 cwt. and it comes to .6875. Lastly, 5.6875 cwt. is reduced to a decimal of a ton by dividing by 20, and comes to .284375.

To value a decimal fraction: "Multiply it by the value of the denomination, and cut off as many decimal places from the product as there are in the multiplicand. The rest are integers of the lower denomination."

Example. What is the value of .425 of L.1?

.425
20
sh. 8.500
6
d. 3.000

SECT. II. ARITHMETIC of TERMINATE DECIMALS.

The value of decimal places decreases like that of integers, ten of the lower place in either being equal to one of the next higher; and the same holds in passing from decimals to integers. Therefore, all the operations are performed in the same way with decimals, whether



**Decimal Fractions.** whether placed by themselves or annexed to integers, as with pure integers. The only peculiarity lies in the arrangement and pointing of the decimals.

*In addition and subtraction,* "Arrange units under units, tenth parts under tenth parts, and proceed as in integers."

32.035	from 13.348	and 12.248
116.374	take 92.993	10.6752
160.63	—————	—————
12.3645	4.0487	1.5728

321.4035

*In multiplication,* "Allow as many decimal places in the product as there are in both factors. If the product has not so many places, supply them by prefixing cyphers on the left hand."

Ex. 1st.] 1.37	2d.] 43.75	3d.] .1572
1.8	.48	.12
—————	—————	—————
1096	35000	.01864
137	17500	
—————	—————	
2.466	21.0000	

The reason of this rule may be explained, by observing, that the value of the product depends on the value of the factors; and since each decimal place in either factor diminishes its value ten times, it must equally diminish the value of the product.

To multiply decimals by 10, move the decimal point one place to the right; to multiply by 100, 1000, or the like, move it as many places to the right as there are cyphers in the multiplier.

*In division,* "Point the quotient so that there may be an equal number of decimal places in the dividend as in the divisor and quotient together."

Therefore, if there be the same of decimal places in the divisor and dividend, there will be as many in the quotient.

If there be more in the dividend, the quotient will have as many as the dividend has more than the divisor.

If there be more in the divisor, we must annex (or suppose annexed) as many cyphers to the dividend as may complete the number in the divisor, and all the figures of the quotient are integers.

If the division leave a remainder, the quotient may be extended to more decimal places; but these are not regarded in fixing the decimal point.

The reason for fixing the decimal point, as directed, may be inferred from the rule followed in multiplication. The quotient multiplied by the divisor produces the dividend; and therefore the number of decimal places in the dividend is equal to those in the divisor and quotient together.

The first figure of the quotient is always at the same distance from the decimal point, and on the same side as the figure of the dividend, which stands above the unit place of the first product. This also takes place in integers; and the reason is the same in both.

It was formerly observed, that numbers were diminished when multiplied by proper fractions, and increased when divided by the same. Thus, multiplication by fractions corresponds with division by integers; and division by fractions with multiplication by integers; when we multiply by  $\frac{1}{2}$  or .5, we obtain the same an-

swer as when we divide by 2, and every integer has a correspondent decimal, which may be called its *reciprocal*. Multiplication by that decimal supplies the place of division by the integer, and division supplies the place of multiplication.

To find the reciprocal of any number, divide 1 with cyphers annexed by that number.

Ex. Required the reciprocal of 625.

625)1.000(.0016

625  
3750  
3750

0

The product of any number multiplied by .0016 is the same as the quotient divided by 625. *Example.*

625)9375(15

625  
3125  
3125

0

Because .0016 is  $\frac{1}{625}$  of unity, any number multiplied by that fraction will be diminished 625 times. For a like reason, the quotient of any number divided by .0016, will be equal to the product of the same multiplied by 625. *Example.*

.1016)516.0000(322500

48.....  
36  
32  
—————  
40  
32

80  
80  
—————  
0

516  
625

2580  
1032  
—————  
3096  
322500

15.0000

SECT. III. APPROXIMATE DECIMALS.

It has been shown that some decimals, though extended to any length, are never complete; and others, which terminate at last, sometimes consist of so many places, that it would be difficult in practice to extend them fully. In these cases, we may extend the decimal to three, four, or more places, according to the nature of the articles, and the degree of accuracy required, and reject the rest of it as inconsiderable. In this manner we may perform any operation with ease by the common rules, and the answers we obtain are sufficiently exact for any purpose in business. Decimals thus restricted are called *approximates*.

Shillings, pence, and farthings, may be easily reduced to decimals of three places, by the following rule. Take half the shillings for the first decimal place, and the number of farthings increased by one, if it amount to 24 or upwards; by two, if it amount to 48 or upwards; and by three, if it amount to 72 or upwards, for the two next places.

The reason of this is, that 20 shillings make a pound, two shillings is the tenth part of a pound; and therefore



Decimal Fractions.

fore half the number of shillings makes the first decimal place. If there were 50 farthings in a shilling, or 1000 in a pound, the units of the farthings in the remainder would be thousandth parts, and the tens would be hundredth parts, and so would give the two next decimal places; but because there are only 48 farthings in a shilling, or 960 in a pound, every farthing is a little more than the thousandth part of a pound; and since 24 farthings make 25 thousandth parts, allowance is made for that excess by adding 1 for every 24 farthings, as directed.

If the number of farthings be 24, 48, or 72, and consequently the second and third decimal places 25, 50, and 75, they are exactly right; otherwise they are not quite complete, since there should be an allowance of  $\frac{1}{24}$ , not only for 24, 48, and 72 farthings, but for every other single farthing. They may be completed by the following rule: Multiply the second and third decimal places, or their excess above 25, 50, 75, by 4. If the product amount to 24 or upwards, add 1; if 48, add 2; if 72, add 35. By this operation we obtain two decimal places more; and by continuing the same operation, we may extend the decimal till it terminate in 25, 50, 75, or in a repeater.

Decimals of sterling money of three places may easily be reduced to shillings, pence, and farthings, by the following rule: Double the first decimal place, and if the second be 5 or upwards, add 1 thereto for shillings. Then divide the second and third decimal places, or their excess above 50, by 4, first deducting 1, if it amount to 25, or upwards; the quotient is pence, and the remainder farthings.

As this rule is the converse of the former one, the reason of the one may be inferred from that of the other. The value obtained by it, unless the decimal terminate in 25, 50, or 75, is a little more than the true value; for there should be a deduction, not only of 1 for 25, but a little deduction of  $\frac{1}{25}$  on the remaining figures of these places.

We proceed to give some examples of the arithmetic of approximates, and subjoin any necessary observations.

ADDITION.		SUBTRACTION.	
Cwt.	qrs. lb.	Cwt.	qrs. lb.
3	2 14 = 3.625	3	2 2 = 3.51785
2	3 22 = 2.94642	1	1 19 = 1.41964
3	3 19 = 3.91964		
4	1 25 = 4.47321	2	— 9 2.09821
14	3 24 14.96427		

If we value the sum of the approximates, it will fall a little short of the sum of the articles, because the decimals are not complete.

Some add 1 to the last decimal place of the approximate, when the following figure would have been 5, or upwards. Thus the full decimal of 3qrs. 22lb. is .946428571, and therefore .94643 is nearer to it than .94642. Approximates, thus regulated, will in general give exact answers, and sometimes above the true one, sometimes below it.

The mark + signifies that the approximate is less than the exact decimal, or requires something to be added. The mark — signifies that it is greater, or requires something to be subtracted.

MULTIPLICATION.

8278+	Meth. 2d] 8278	Meth. 3] 8278
2153+	2153	3512
24834	16556	16556
41390	8278	827
8278	41390	413
16556	24834	24
1782 2534	1782 2534	1782

Here the four last places are quite uncertain. The right-hand figure of each particular product is obtained by multiplying 8 into the figures of the multiplier; but if the multiplicand had been extended, the carriage from the right-hand place would have been taken in; consequently the right-hand place of each particular product, and the four places of the total product, which depend on these, are quite uncertain. Since part of the operation therefore is useless, we may omit it; and, for this purpose, it will be convenient to begin (as in p. 629. col. 1. fifth variety) at the highest place of the multiplier. We may perceive that all the figures on the right hand of the line in Meth. 2. serve no purpose, and may be left out, if we only multiply the figures of the multiplicand, whose products are placed on the right hand of the line. This is readily done by inverting the multiplier in Meth. 3. and beginning each product with the multiplication of that figure which stands above the figure of the multiplier that produces it, and including the carriage from the right-hand place.

If both factors be approximates, there are as many uncertain places, at least in the product, as in the longest factor. If only one be an approximate, there are as many uncertain places as there are figures in that factor, and sometimes a place or two more, which might be affected by the carriage. Hence we may infer, how far it is necessary to extend the approximates, in order to obtain the requisite number of certain places in the product.

DIVISION.

.3724—	798 64327+(-144 or 3724)	79864327(2144
	744 8	7448
	53 84	538
	37 24	372
	16 602	166
	14 896	148
	1 7063	18
	1 4892	14
	2171	4

Here all the figures on the right-hand of the line are uncertain; for the right-hand figure of the first product 7448 might be altered by the carriage, if the divisor were extended; and all the remainders and dividends that follow are thereby rendered uncertain. We may omit these useless figures; for which purpose, we dash a figure on the right hand of the divisor at each step, and neglect it when we multiply by the figure of the quotient next obtained; but we include the carriage. The operation, and the reason of it, will appear clear, by comparing the operation at large, and contracted, in the above example.



Intermi-  
nate  
Decimals.

CHAP. X. INTERMINATE DECIMALS.

Intermi-  
nate  
Decimals.

SECT. I. REDUCTION OF INTERMINATE DECIMALS.

As the arithmetic of interminate decimals, otherwise called the *arithmetic of infinites*, is facilitated by comparing them with vulgar fractions, it will be proper to inquire what vulgar fractions produce the several kinds of decimals, terminate or interminate, repeaters or circulates, pure or mixed. And, first, we may observe, that vulgar fractions, which have the same denominator, produce decimals of the same kind. If the decimals corresponding to the numerator 1 be known, all others are obtained by multiplying these into any given numerator, and always retain the same form, providing the vulgar fraction be in its lowest terms.

Thus, the decimal equal to  $\frac{1}{3}$  is .142857, which multiplied by

$$\begin{array}{r} 3 \\ \hline \end{array}$$

produces the decimal equal to  $\frac{1}{3} \cdot 428571$ ,

Secondly, If there be cyphers annexed to the significant figures of the denominator, there will be an equal number of additional cyphers prefixed to the decimal. The reason of this will be evident, if we reduce these vulgar fractions to decimals, or if we consider that each cypher annexed to the denominator diminishes the value of the vulgar fraction ten times, and each cypher prefixed has a like effect on the value of the decimal.

Thus,  $\frac{1}{7} = .142857$ ,  $\frac{2}{25} = .08$ ,  $\frac{1}{25} = .04$ ,  
 $\frac{1}{70} = .0142857$ ,  $\frac{2}{2500} = .0008$ ,  $\frac{1}{2500} = .0004$ ,

We may therefore confine our attention to vulgar fractions, whose numerator is 1, and which have no cyphers annexed to the significant figures of the denominator.

Thirdly, Vulgar fractions, whose denominators are 2 or 5, or any of their powers, produce terminate decimals; for if any power of 2 be multiplied by the same power of 5, the product is an equal power of 10, as appears from the following table:

2	× 5	=	10
2 <sup>2</sup> or 4	× 5 <sup>2</sup> or 25	=	100 or 10 <sup>2</sup>
2 <sup>3</sup> or 8	× 5 <sup>3</sup> or 125	=	1000 or 10 <sup>3</sup>
2 <sup>4</sup> or 16	× 5 <sup>4</sup> or 625	=	10000 or 10 <sup>4</sup>
2 <sup>5</sup> or 32	× 5 <sup>5</sup> or 3125	=	100000 or 10 <sup>5</sup>

And the reason is easily pointed out; for  $2^3 \times 5^3 = 2 \times 2 \times 2 \times 5 \times 5 \times 5$ ; or, because the factors may be taken in any order,  $= 2 \times 5 \times 2 \times 5 \times 2 \times 5$ ; and this, if we multiply the factors by pairs, becomes  $10 \times 10 \times 10$ , or  $10^3$ . The like may be shown of any other power. And we may infer, that if any power of 10 be divided by a like power of 2 or 5, the quotient will be an equal power of 5 or 2 respectively, and will come out exact, without a remainder; and, since the vulgar fractions above mentioned are reduced to decimals by some such division, it follows that the equivalent decimals are terminate.

The number of places in the decimal is pointed out by the exponent of the power; for the dividend must be a like power of 10, or must have an equal number of cyphers annexed to 1, and each cypher of the dividend gives a place of the quotient.

Vol. II. Part. II.

Ex.  $\frac{1}{32} = .03125$ , a decimal of 5 places, and  $32 = \frac{1}{.03125}$ .

$$\begin{array}{r} 32 \overline{) 1.00000} \left( .03125 \right. \\ \underline{96} \phantom{000} \\ 40 \phantom{00} \\ \underline{32} \phantom{00} \\ 80 \phantom{0} \\ \underline{64} \phantom{0} \\ 160 \\ \underline{160} \\ 0 \end{array}$$

Again, No denominators except 2, 5, or their powers, produce terminate decimals. It is obvious from p. 631. col. 2. par. 4. that, if any denominator which produces a terminate decimal be multiplied thereby, the product will consist of 1, with cyphers annexed; and consequently the lowest places of the factors, multiplied into each other, must amount to 10, 20, or the like, in order to supply a cypher for the lowest place of the product; but none of the digits give a product of this kind, except 5 multiplied by the even numbers; therefore one of the factors must terminate in 5, and the other in an even number. The former is measured by 5, and the latter by 2, as was observed p. 630. col. 2. par. 7. Let them be divided accordingly, and let the quotients be multiplied. This last product will be exactly one-tenth part of the former; and therefore will consist of 1, with cyphers annexed, and the factors which produce it are measured by 5 and 2, as was shewn before. This operation may be repeated; and one of the factors may be divided by 5, and the other by 2, till they be exhausted; consequently they are powers of 5 and 2.

Fourthly, Vulgar fractions, whose denominators are 3 or 9, produce pure repeating decimals.

$$\begin{array}{l} \text{Thus, } \frac{1}{3} = .111 \dots \\ \frac{2}{9} = .222 \dots \text{ or } \frac{6}{9} = 666 \dots \\ \frac{1}{3} \text{ or } \frac{3}{9} = .333 \dots \\ \frac{4}{9} = .444 \dots \end{array}$$

The repeating figure is always the same as the numerator. Hence we infer, that repeating figures signify ninth parts; a repeating 3 signifies  $\frac{1}{3}$ ; a repeating 6 signifies  $\frac{2}{3}$ ; and a repeating 9 signifies  $\frac{8}{9}$ , or 1.

The value of repeating decimals may also be illustrated by collecting the values of the different places: for example, let the value of 111 be required; the first decimal place signifies  $\frac{1}{10}$ , the next  $\frac{1}{100}$ , the next  $\frac{1}{1000}$ . The sum of the two first places is  $\frac{11}{100}$ , of the three places  $\frac{111}{1000}$ ; and so on. If we subtract these values successively from  $\frac{1}{9}$ , the first remainder is  $\frac{1}{90}$ , the second  $\frac{1}{900}$ , the third  $\frac{1}{9000}$ . Thus, when the value of the successive figures is reckoned, the amount of them approaches nearer and nearer to  $\frac{1}{9}$ , and the difference becomes 10 times less for each figure assumed; and, since the decimal may be extended to any length, the difference will at last become so small, that it need not be regarded. This may give a notion of a decreasing series, whose sum may be exactly ascertained, though the number of terms be unlimited.

Fifthly, Vulgar fractions, whose denominators are a product of 3 or 9 multiplied by 2, 5, or any of their powers, produce mixed repeaters. The reason of this will be evident, if, in forming the decimal, we divide the numerator successively by the component parts of the denominator, as directed p. 630. col. 1. par. ult.



Intermi-  
nate  
Decimals.

&c. The first divisor is 2, 5, or some of their powers, and consequently gives a finite quotient by p. 649. col. 1. par. 3. &c. The second divisor is 3 or 9; and therefore, when the figures of the dividend are exhausted, and figures annexed to the remainder, the quotient will repeat, by p. 649. col. 2. par. 2.

$$Ex. \frac{1}{144} 144 = 16 \times 9.$$

144) 1.000(00694	or 16) 1.00	9
864		96.00694
-----		-----
1360		40
1296		32
-----		-----
* 640		80
576		80
-----		-----
640		0

In order to illustrate this subject further, we shall explain the operation of casting out the threes, which resembles that for casting out the nines, formerly laid down, p. 633. col. 2. par. 4.—p. 634. col. 2. par. 3. and depends on the same principles, being a method of finding the remainder of a number divided by 3. If the same number be divided by 3 and by 9, the remainders will either agree, or the second remainder will exceed the first by 3 or by 6. The reason of this will be obvious, if we suppose a collection of articles assorted into parcels of 3, and afterwards into parcels of 9, by joining three of the former together. If the lesser parcels be all taken up in composing the greater ones, the remainder will be the same at the end of the second assortment as before; but if one of these lesser parcels be left over, the remainder will be more, and if two of them be left over, the remainder will be 6 more. Therefore, when the nines are cast out from any number, and the result divided by 3, the remainder is the same as when the number is divided by 3: Thus, the results on casting out the 3's may be derived from those obtained by casting out the 9's; and the same correspondence which was pointed out with respect to the latter, for proving the operations of arithmetic, applies also to the former.

To cast out the 3's from any number, add the figures, neglecting 3, 6, or 9; and, when the sum amounts to 3, 6, or 9, reject them, and carry on the computation with the excess only. For example, take 286754: in casting out the 3's we compute thus; 2 and 8 is 10, which is three times 3, and 1 over; 1 and (passing by 6) 7 is 8, which is twice 3 and 2 over; 2 and 5 is 7, which is twice 3 and 1 over; *lastly*, 1 and 4 is 5, which contains 3 once, and 2 over, so the result is 2.

If the 3's be cast out from  $2^3$  or 4, the result is 1; from  $2^3$  or 8, the result is 2; from  $2^4$  or 16, the result is 1; and universally the odd powers of 2 give a result of 2, and the even powers give a result of 1. As every higher power is produced by multiplying the next lower by 2, the result of the product may be found by multiplying the result of the lower power by 2, and casting out the 3's if necessary. Therefore, if the result of any power be 1, that of the next higher is 2, and that of the next higher (4 with the 3's cast out, or) 1. Thus the results of the powers of 2 are 1 and 2 by turns; also, because the result of 5, when the 3's are cast out, is 2, its powers will have the same results as the corresponding powers of 2.

Intermi-  
nate  
Decimals.

If the denominator be a product of an even power of 2 or 5, multiplied by 3, the repeating figure of the corresponding decimal is 3; but, if it be the product of an odd power, the repeating figure is 6. For, in forming the decimal, we may divide by the component parts of the denominator, and the first divisor is a power of 2 or 5; therefore the first quotient is a like power of 4 or 2 (p. 649. col. 1. par. 3. &c.) and this power is again divided by 3. If it be an even power, the remainder or result is 1, as was demonstrated above; and if cyphers be annexed to the remainder, and the division continued, it quotes a repeating 3; but if it be an odd power, the remainder is 2, and the quotient continued by annexing cyphers is a repeating 6.

If the denominator be 9, multiplied by 2, or any of its powers, the repeating figure may be found by casting out the 9's from the corresponding power, by 5; and if it be multiplied by 5, or any of its powers, by casting out the 9's from the corresponding power of 2. For if the decimal be formed by two divisions, the first quotes the corresponding power; and the second, because the divisor is 9, repeats the resulting figure after the dividend is exhausted.

If any mixed repeater be multiplied by 9, the product is a terminate decimal, and may be reduced (p. 649. col. 1. par. 3. &c.) to a vulgar fraction, whose denominator is 2, 5, or some of their powers; therefore all mixed repeaters are derived from vulgar fractions, whose denominators are products of 2, 5, or their powers, multiplied by 3 or 9.

Sixthly, All denominators, except 2, 5, 3, 9, the powers of 2 and 5, and the products of these powers, multiplied by 3 or 9, produce circulating decimals. We have already shown, that all terminate decimals are derived from 2, 5, or their powers; all pure repeaters, from 3 or 9; and all mixed repeaters, from the products of the former multiplied by the latter. The number of places in the circle is never greater than the denominator diminished by unity. Thus  $\frac{1}{7}$  produces .142857 a decimal of 6 places; and  $\frac{1}{17}$  produces .0588235294117647, a decimal of 16 places. The reason of this limit may be inferred from the division; for whenever a remainder which has recurred before, returns again, the decimal must circulate, and the greatest number of possible remainder is one less than the divisor: But frequently the circle is much shorter. Thus  $\frac{1}{14} = .07$ , a circle of 2 places.

When a vulgar fraction, whose numerator is 1, produces a pure circulate, the product of the circle multiplied by the denominator will consist of as many 9's as there are places in the circle. Thus  $\frac{1}{7} = .142857$ , which multiplied by 7 produces 999999. The like holds in every decimal of the same kind; for they are formed by dividing 10, or 100, or 1000, or some like number, by the denominator, and the remainder is 1, when the decimal begins to circulate; for the division must be then exactly in the same state as at the beginning: Therefore, if the dividend had been less by 1, or had consisted entirely of 9's, the division would have come out without a remainder; and since the quotient multiplied by the divisor, produces the dividend, as was shown p. 631. col. 2. par. 3. it follows, that the circulating figures, multiplied by the denominator, produce an equal number of 9's.

Every vulgar fraction, which produces a pure circulate,







Intermi-  
nate  
Decimals.

tions of this kind, whose denominators are multiples of 2, 5, or their powers; and therefore all other denominators, except 3 and 9, produce pure circulates. The reader will easily perceive, that when a decimal is formed from a vulgar fraction, whose numerator is 1, when the remainder 1 occurs in the division, the decimal is a pure circulate; but if any other remainder occurs twice, the decimal is a mixed circulate. We are to show that this last will never happen, unless the divisor be a multiple of 2, 5, or their powers. If two numbers be prime to each other, their product will be prime to both; and if two numbers be proposed, whereof the first does not measure the second, it will not measure any product of the second, if the multiplier be prime to the first. Thus, because 7 does not measure 12, it will not measure any product of 12 by a multiplier prime to 7. For instance, it will not measure  $12 \times 3$ , or 36. Otherwise, the quotient of 12 divided by 7, or  $1\frac{5}{7}$  multiplied by 3, would be a whole number, and  $5 \times 3$  would be measured by 7, which it cannot be, since 5 and 3 are both prime to 7.

Now, if we inspect the foregoing operation, we shall perceive that the product of 136, the remainder where the decimal begins to circulate, multiplied by 999, is measured by the denominator 216. But 999 is not measured by the denominator, otherwise the decimal would have been a pure circulate; therefore 126 and 136 are not prime to each other, but have a common measure, and that measure must apply to 864, a multiple of 126, and to 1000, the sum of 136 and 864; see p. 642, col. 2. par. *ult.* &c. But it was proven, p. 649, col. 1. par. 1. that no numbers, except the powers of 5 and 2, measure a number consisting of 1 with cyphers annexed; consequently the denominator must be measured by a power of 2 or 5. The reader will perceive, that the exponent of the power must be the same as the number of cyphers annexed to 1, or as the number of figures in the finite part of the decimal.

We shall now recapitulate the substance of what has been said with respect to the formation of decimals. 2, 5, and their powers, produce finite decimals, by p. 649. col. 1. par. 3. &c. and the number of places is measured by the exponent of the power, 3 and 9 produce pure repeaters (p. 649. col. 2. par. 2.) The products of 2, 5, and their powers, by 3 or 9, produce mixed repeaters by p. 649. col. 2. par. *ult.*; their products by other multipliers, produce mixed circulates by p. 649. col. 2. par. *ult.*; and all numbers of which 2 and 5 are not aliquot parts, except 3 and 9, produce pure circulates. To find the form of a decimal corresponding to any denominator, divide by 2, 5, and 10, as often as can be done without a remainder; the number of divisions shows how many finite places there are in the decimal, by p. 651. col. 2. par. 3. If the dividend be not exhausted by these divisions, divide a competent number of 9's by the last quotient, till the division be completed without a remainder: the number of 9's required show how many places there are in the circle; and the reason may be inferred from p. 650. col. 2. par. 5.

We shall conclude this subject by marking down the decimals produced by vulgar fractions, whose numerator is 1, and denominators 30; and under that the reader may observe their connexion with the denominators.

$\frac{1}{2} = .5$	$\frac{1}{6} = .\overset{1}{6}25$
$\frac{1}{3} = .333$	$\frac{1}{7} = .\overset{1}{7}588235294117647$
$\frac{1}{4} = .25$	$\frac{1}{8} = .\overset{1}{8}558$
$\frac{1}{5} = .2$	$\frac{1}{9} = .\overset{1}{9}052631578947368421,$
$\frac{1}{6} = .1666$	$\frac{1}{10} = .\overset{1}{10}05$
$\frac{1}{7} = .142857,$	$\frac{1}{11} = .\overset{1}{11}047619,$
$\frac{1}{8} = .125$	$\frac{1}{12} = .\overset{1}{12}045,45,$
$\frac{1}{9} = .111$	$\frac{1}{13} = .\overset{1}{13}0434782608695652173913,$
$\frac{1}{10} = .1$	$\frac{1}{14} = .\overset{1}{14}041666$
$\frac{1}{11} = .09,09,$	$\frac{1}{15} = .\overset{1}{15}04$
$\frac{1}{12} = .08333$	$\frac{1}{16} = .\overset{1}{16}0384615,$
$\frac{1}{13} = .079623,$	$\frac{1}{17} = .\overset{1}{17}037,$
$\frac{1}{14} = .0,714285$	$\frac{1}{18} = .\overset{1}{18}03,571428$
$\frac{1}{15} = .0,666$	$\frac{1}{19} = .\overset{1}{19}0344827586206896551724137931,$
	$\frac{1}{20} = .\overset{1}{20}0333.$

Intermi-  
nate  
Decimals

RULES for reducing interminate decimals to vulgar fractions.

- I. "If the decimal be a pure repeater, place the repeating figure for the numerator, and 9 for the denominator."
- II. "If the decimal be a pure circulate, place the circulating figures for the numerator, and as many 9's as there are places in the circle for the denominator."
- III. "If there be cyphers prefixed to the repeating or circulating figures, annex a like number to the 9's in the denominator."
- IV. "If the decimal be mixed, subtract the finite part from the whole decimal. The remainder is the numerator; and the denominator consists of as many 9's as there are places in the circle, together with as many cyphers as there are finite places before the circle."

Thus,  $235,62 = \frac{23562}{100000}$   
 From the whole decimal 23562  
 We subtract the finite part 235

and the remainder 23327 is the numerator.

The reason may be illustrated by dividing the decimal into two parts, whereof one is finite, and the other a pure repeater or circulate, with cyphers prefixed. The sum of the vulgar fractions corresponding to these will be the value of the decimal sought.

$.235,62$ , may be divided into  $.235 = \frac{235}{1000}$  by Rule I. and  $.000,62 = \frac{62}{100000}$  by Rules II. III.

In order to add these vulgar fractions, we reduce them to a common denominator; and, for that purpose, we multiply both terms of the former by 99 which gives  $\frac{23327}{99000}$ ; then we add the numerators.

235 or by method explained p. 628. col. 1. par. 3.

99		Sum of numerators.
2115	23500	23265 or 23562
2115	235	62 235
23265	23265	23327 23327

The value of circulating decimals is not altered, though one or more places be separated from the circle, and considered as a finite part, providing the circle be completed. For example, .27 may be written .272, which is reduced by the last of the foregoing rules to  $\frac{272}{1000}$ , or  $\frac{27}{100}$ , which is also the value of .27. And if two or more circles be joined, the value of the decimal is still the same. Thus,  $2727 = \frac{2727}{10000}$  which is reduced by dividing the terms by 101 to  $\frac{27}{100}$ .



Intermi-  
nate Deci-  
mals.

All circulating decimals may be reduced to a similar form, having a like number both of finite and circulating places. For this purpose, we extend the finite part of each as far as the longest, and then extend all the circles to so many places as may be a multiple of the number of places in each.

Ex. .34,725, extended, .34,725725725725,  
1,4562, 14,562456245624.

Here the finite part of both is extended to two places, and the circle to 12 places, which is the least multiple for circles of 3 and 4 places.

SECT. II. ADDITION and SUBTRACTION of INTERMINATE DECIMALS.

30

To add repeating Decimals. "Extend the repeating figures one place beyond the longest finite ones, and when you add the right-hand column, carry to the next by 9."

Ex. .37524	or	37524	.23	.296	$\frac{7}{30}$
.8		88888	.328	.42	$\frac{1}{31}$
.643		643	.469	.7548	$\frac{1}{72}$
.73		73333	.36	.31	$\frac{2}{73}$
264046					

To subtract repeating decimals. "Extend them as directed for addition, and borrow at the right-hand place, if necessary, by 9."

.93566	.646	.7358	.7382	.469
.84738	.5342	.62563	.68	.38
.08727 .11172				

The reason of these rules will be obvious, if we recollect that repeating figures signify ninth parts. If the right-hand figure of the sum or remainder be 0, the decimal obtained is finite; otherwise it is a repeater.

To add circulating Decimals. "Extend them till they become similar (p. 652. col. 1. par. ult. &c.); and when you add the right-hand column, include the figure which would have been carried if the circle had been extended further."

Ex. 1st.]	Extended.	Ex. 2d.]	Extended.
.574,	.574,574,	.874,	.874,874,874,
.2,698,	.266,869,	.1463	.146,333333,
.428	.428	.1,58,	.158,585858,
.37,983,	.379,839,	.32,	.323,232323,
1.652,284,		1.503,026390,	

Note 1. Repeaters mixed with circulates are extended and added as circulates.

Note 2. Sometimes it is necessary to inspect two or more columns for ascertaining the carriage; because the carriage from a lower column will sometimes raise the sum of the higher, so as to alter the carriage from it to a new circle. This occurs in Ex. 2.

Note 3. The sum of the circles must be considered as a similar circle. If it consist entirely of cyphers, the amount is terminate. If all the figures be the same, the amount is a repeater. If they can be divided into parts exactly alike, the amount is a circle of fewer places; but, for the most part, the circle of the sum is similar to the extended circles.

.3,868,	.0842,	$\frac{2}{7}$	.368	.003094.	$\frac{5}{81}$ ,
.4,375,	.08,42	$\frac{3}{8}$	.57,	.765,	$\frac{7}{48}$
.853492,	.0,842	$\frac{8}{11}$	.895	.76,	$\frac{2}{11}$
.62,	.0842	$\frac{1}{77}$	.742	.765	$\frac{3}{23}$

Intermi-  
nate Deci-  
mals.

To subtract circulating Decimals. "Extend them till they become similar; and when you subtract the right-hand figure, consider whether 1 would have been borrowed if the circles had been extended further, and make allowance accordingly."

.5,72,	.974,	or .974974,	.8,135,	or .8,135135,
.4,86,	.86,	.868686,	.452907	or .4,529074,
.0,85,				
.106288,			.3,606060,	
or 3,60				

SECT. III. MULTIPLICATION of INTERMINATE DECIMALS.

31

CASE I. "When the multiplier is finite, and the multiplicand repeats, carry by 9 when you multiply the repeating figure: The right-hand figure of each line of the product is a repeater; and they must be extended and added accordingly."

Ex. .13494
.367
9446x
809666
4048333
.0495246x

If the sum of the right-hand column be an even number of 9's, the product is finite; otherwise, it is a repeater.

CASE II. "When the multiplier is finite, and the multiplicand circulates, add to each product of the right-hand figure the carriage which would have been brought to it if the circle had been extended. Each line of the product is a circle similar to the multiplicand, and therefore they must be extended and added accordingly."

The product is commonly a circulate similar to the multiplicand; sometimes it circulates fewer places, repeats, or becomes finite; it never circulates more places.

Ex. .37,46, X .235	1. .674, X .78
235,	2. .37, X .86
187,32,	3. .625, X .42
1123,93,	4. .4793, X .4.8
7492,92,	5. .3,75, X 1.24
.08804,19,	6. .2,963, X .36

CASE III. "When the multiplier repeats or circulates, find the product as in finite multipliers, and place under it the products which would have arisen from the repeating or circulating figures, if extended."

Ex. 1st.]	.958 X .8	2d.]	.784 X .36,
	8		36
	7664		4704
	7664		2352
	7664		28224
	7664		28224
	7664		28224
	8513		284,09,

3d.]



Intermi-  
nate  
Decimals.

3d.]  $.714285, \times 54,$   
 $\quad\quad\quad 54$   


---

 $\quad\quad\quad 2859142$   
 $\quad\quad\quad 35714285$   


---

 $38,571428 | 571428 | 571428,$   
 $\quad\quad\quad 385714 | 285714 | 285714,$   
 $\quad\quad\quad 3857 \quad | 142857 | 142857,$   


---

 $\quad\quad\quad 38 \quad 571428 | 571428,$   
 $\quad\quad\quad 385714 | 285714,$   
 $\quad\quad\quad 3857 \quad | 142875,$   


---

 $\quad\quad\quad 38 \quad 571428,$   
 $\quad\quad\quad 385714,$   
 $\quad\quad\quad 3857,$   
 $\quad\quad\quad 38,$   


---

 $38,961038,961038,961038,$

It is evident, that if a repeating multiplier be extended to any length, the product arising from each figure will be the same as the first, and each will stand one place to the right hand of the former. In like manner, if a circulating multiplier be extended, the product arising from each circle will be alike, and will stand as many places to the right hand of the former as there are figures in the circle. In the foregoing examples, there are as many of these products repeated as is necessary for finding the total product. If we place down more, or extend them further, it will only give a continuation of the repeaters or circulates.

This is obvious in Ex. 1st and 2d. As the learner may not apprehend it so readily in Ex. 3d, when the multiplicand is a circulate, and consequently each line of the product is also a circulate, we have divided it into columns, whose sums exhibit the successive circles. The sum of the first column is 38,961037, and there is a carriage of 1 from the right-hand column, which completes 38,961038. This one is supplied by the three first lines of the second column, the sum of which is 999999, and being increased by 1, in consequence of the carriage from the third column, amounts to 1,000000, and therefore carries 1 to the first column, and does not affect the sum of the remaining lines, which are the same as those of the first column. The third column contains two sets of these lines, which amount to 999999, besides the line which compose the circle. Each of these sets would be completed into 1,000000 by the carriage from the 4th column, if extended, and each would carry 1 to the second column. One of these would complete the sum of the three first lines, and the other would complete the sum of the circle. In like manner, if the circles be extended ever so far, the increasing carriages will exactly answer for the increasing deficiencies, and the sum will be always a continuation of the circle: but the product could not circulate, unless the sum of the lines marked off in the second column had consisted entirely of 9's; or had been some multiple of a number of 9's; and the circles must be extended till this take place, in order to find the complete product.

The multiplication of intermediate decimals may be often facilitated, by reducing the multiplier to a vulgar fraction, and proceeding as directed p. 643. col. 1. par. 6.

Intermi-  
nate  
Decimals.

Thus,  
 4th.]  $.3824 \times \frac{7}{7} = \frac{26768}{7}$   
 $\quad\quad\quad 7$   


---

 $9)2.6768$   
 $\quad\quad\quad .9742$   


---

 5th.]  $.384 \times .23 = \frac{8832}{23}$   
 $\quad\quad\quad 23$   


---

 $1152 \quad 23$   
 $\quad\quad\quad 768$   


---

 $90)8.832$   
 $\quad\quad\quad .09812$

Therefore, in order to multiply by 3, we take one-third part of the multiplier; and, to multiply by 6, we take two-thirds of the same. Thus,

6th.]  $.784 = .3 \times \frac{2}{3}$   
 $\quad\quad\quad 2$   


---

 $3).784$   
 $\quad\quad\quad .2612$   


---

 7th.]  $.8761 \times \frac{2}{3} = \frac{17522}{3}$   
 $\quad\quad\quad 2$   


---

 $3)1.7522$   
 $\quad\quad\quad .58406$

As the denominator of the vulgar fractions always consists of 9's, or of 9's with cyphers annexed, we may use the contraction explained p. 631. col. 1. par. ult. &c.; and this will lead us exactly to the same operation which was explained p. 653. col. 2. par. ult. &c. on the principles of decimal arithmetic.

8th.]  $.735 \times .3,26 = \frac{237405}{323}$   
 $\quad\quad\quad 323$   


---

 $2205 \quad 323$   
 $1470$   
 $2205$   


---

 $99)237405$   
 $\quad\quad\quad 2374,05$   
 $\quad\quad\quad 23,74$   
 $\quad\quad\quad ,23$   


---

 $.239803,$

9th.]  $.278 \times 365 = \frac{101470}{365}$   
 $\quad\quad\quad 365$   


---

 $1390$   
 $1668$   
 $834$   


---

 $999)101470,$   
 $\quad\quad\quad 101,$   


---

 $.101,571,$

When the multiplier is a mixed repeater or circulate, we may proceed as in Ex. 5th and 8th; or we may divide the multiplier into two parts, of which the first is finite, and the second a pure repeater or circulate, with cyphers prefixed, and multiply separately by these, and add the products.

Thus,  $.384 \times .23$  or by  $.2 = .0768$  or thus,  $.384$   
 and by  $.05 = .02133$   $\quad\quad\quad .23$   


---

 $.09813$   


---

 $9)1920$   
 $\quad\quad\quad 2133$   
 $\quad\quad\quad 768$   


---

 $.09813$

In the following examples, the multiplicand is a repeater; and therefore the multiplication by the numerator of the vulgar fraction is performed as directed p. 653. col. 2. par. 2.

10th.]



Intermi-  
nate  
Decimals.

10th.]  $.683 \times .75$   
 $\begin{array}{r} 5 \\ \hline 9)3.418(.37,962, \\ 27 \\ \hline 71 \\ 63 \\ \hline * 86 \\ 81 \\ \hline 56 \\ 54 \\ \hline 26 \\ 18 \\ \hline * 86 \end{array}$

11th.]  $.63 \times .2,39 = \frac{217}{99}$   
 $\begin{array}{r} .237 \\ \hline 443 \quad 237 \\ 1899 \\ \hline 12666 \\ \hline 99)15010(.15,16, \\ 99 \\ \hline 511 \\ 495 \\ \hline * 160 \\ 99 \\ \hline 610 \\ 594 \\ \hline * 16 \end{array}$

Intermi-  
nate  
Decimals.

In Ex. 13th, we have omitted the products of the divisor, and only marked down the remainders. These are found, by adding the left-hand figure of the dividend to the remaining figures of the same. Thus, 363 is the first dividial, and 3 the left-hand figure, added to 63, the remaining figures, gives 66 for the first remainder; and the second dividial, 666, is completed by annexing the circulating figure 6. The reason of which may be explained as follows. The highest place of each dividial shows, in this example, how many hundreds it contains; and as it must contain an equal number of ninety-nines, and also an equal number of units, it follows, that these units, added to the lower places, must show how far the dividial exceeds that number of ninety-nines. The figure of the quotient is generally the same as the first place of the dividial, sometimes one more. This happens in the last step of the foregoing example, and is discovered when the remainder found, as here directed, would amount to 99, or upwards; and the excess above 99 only, must in that case be taken to complete the next dividial.

In the following examples the multiplicand is a circulate, and therefore the multiplication by the numerator is performed as directed p. 653. col. 2. par. 4.

12th.]  $.3,81, \times 53 = \frac{48}{99}$   
 $\begin{array}{r} 48 \quad 5 \\ \hline 3054 \quad 48 \\ 15272 \end{array}$

9)0)183,27,(.203,63,  
 $\begin{array}{r} 18 \\ \hline * 032 \\ 27 \\ \hline 57 \\ 54 \\ \hline * 32 \end{array}$

13th.]  $.12, \times 03, = \frac{1}{99}$   
 $\begin{array}{r} 3 \\ \hline 99)36,36(.036730945821854912764, \\ 666 \\ 723 \\ 306 \\ 936 \\ 453 \\ 576 \\ 813 \\ 216 \\ 183 \\ 846 \\ 543 \\ 486 \\ 903 \\ 126 \\ 273 \\ 756 \\ 633 \\ 396 \\ * 036 \end{array}$

14th.]  $.01, \times .01, = \frac{1}{99}$   
 $\begin{array}{r} 1 \\ \hline 99)01,(000102030405060708091011121314151617181920 \\ 2122232425262728293031323334353637383940 \\ 4142434445464748495051525354555657585960 \\ 6162636465666768697071727374757677787980 \\ 81828384858687888990919293949596979899 \end{array}$

The number of places in the circle of the product is sometimes very great, though there be few places in the factors: but it never exceeds the product of the denominator of the multiplier, multiplied by the number of places in the circle of the multiplicand. Therefore, if the multiplier be 3 or 6, the product may circulate three times as many places as the multiplicand; if the multiplier be any other repeater, nine times as many; if the multiplier be a circulate of two places, ninety-nine times as many; thus, in the last example, .01, a circulate of two places, multiplied by .10, a circulate of two places, produces a circulate of twice 99, or 198 places. And the reason of this limit may be inferred from the nature of the operation; for the greatest possible number of remainders, including 0, is equal to the divisor 99; and each remainder may afford two dividials, if both the circulating figures, 3 and 6, occur to be annexed to it. If the multiplier circulate three places, the circle of the product, for a like reason, may extend nine hundred and ninety-nine times as far as that of the multiplicand. But the number of places is often much less.

The multiplication of interminate decimals may be proven, by altering the order of the factors, (p. 628. col. 2. par. 2.) or by reducing them both to vulgar fractions in their lowest terms, multiplying these as directed p. 643. col. 2. par. 3. and reducing the product to a decimal.

SECT. IV. DIVISION OF INTERMINATE DECIMALS.

CASE I. "When the dividend only is interminate, proceed as in common arithmetic; but, when the figures of the dividend are exhausted, annex the repeating figure, or the circulating figures in their order, instead of cyphers, to the remainder."

Ex.



Intermi-  
nate Deci-  
mals.

Ex. 1st.] Divide .5376 by 7

.7).5376(.76,095238,  
49  
42  
42  
\*066  
63  
36  
35  
16  
14  
26  
21  
56  
56  
\*066

2d.] Divide .843 by 5.

.5)843(.1686  
5  
34  
30  
43  
40  
\*33  
30  
33

3d.] Divide .65328 by 8.

8).65328(.081664

In these accounts the quotient is never finite. It may repeat if the dividend repeats; or, if the dividend circulate, it may circulate an equal number of places, often more, and never fewer. The greatest possible extent of the circle is found by multiplying the divisor into the number of places in the circle of the dividend. Thus, a circulate of 3 places, divided by 3, quotes a circulate of 3 times 3 or 9 places.

CASE II. "When the divisor is interminate, the multiplications and subtractions must be performed according to the directions given for repeating and circulating decimals."

Ex. 1st.] Divide .37845 by 8.

8).37845(.68121  
333333  
45116  
44444  
672  
558  
116  
111  
8  
8  
0

2d.] Divide .245892 by 2.18,

.2,18).245892(1.127005  
218181,81,  
27710,18,  
21818,18,  
5892,00,  
4363,63,  
1528,36,  
1527,27,  
1090,90  
1090,90  
0

The foregoing method is the only one which properly depends on the principles of decimal arithmetic; but it is generally shorter to proceed by the following rule.

"Reduce the divisor to a vulgar fraction, multiply the dividend by the denominator, and divide the product by the numerator."

Ex. 1st.] Divide .37845 by  $8 = \frac{5}{8}$

9  
5)3.40605(.68121

2d.] Divide .37848 by  $6 = \frac{2}{3}$

3  
2)1.13536(.567683

Note 1. Division by 3 triples the dividend, and division by 6 increases the dividend one-half.

Note 2. When the divisor circulates, the denominator of the vulgar fraction consists of 9's, and the multiplication is sooner performed by the contraction explained p. 628. col. 1. par. 1. It may be wrought in the same way, when the divisor repeats, and the denominator, of consequence, is 9.

Note 3. If a repeating dividend be divided by a repeating or circulating divisor; or, if a circulating dividend be divided by a similar circulating dividend; or, if the number of places in the circle of the divisor be a multiple of the number in the dividend; then the product of the dividend multiplied by the denominator of the divisor will be terminate, since like figures are subtracted from like in the contracted multiplication, and consequently no remainder left. The form of the quotient depends on the divisors as explained at large, p. 649. col. 1. par. 1.—p. 651. col. 2. par. 3.

Note 4. In other cases, the original and multiplied dividend are similar, and the form of the quotient is the same as in the case of a finite divisor. See p. 655. col. 2. par. *ult.* &c.

Note 5. If the terms be similar, or extended till they become so, the quotient is the same as if they were finite, and the operation may be conducted accordingly; for the quotient of vulgar fractions that have the same denominator is equal to the quotient of their numerators.

CHAP. XI. OF THE EXTRACTION OF ROOTS.

THE origin of powers by involution has already been explained under the article ALGEBRA. There now remains therefore only to give the most expeditious methods of extracting the square and cube roots; the reasons of which will readily appear from what is said under that article. As for all powers above the cube, unless such as are multiples of either the square and cube, the extraction of their roots admits of no deviation from the algebraic canon which must be always constructed on purpose for them.

If the root of any power not exceeding the seventh power be a single digit, it may be obtained by inspection, from the following TABLE of powers.

1st, To



Extraction of Roots.

Extraction of Roots.

1st power or root.	2d power or square.	3d power or cube.	4th power or biquadrate.	5th power or furfold.	6th power or cube square.	7th power.
1	1	1	1	1	1	1
2	4	8	16	32	64	128
3	9	27	81	243	729	2187
4	16	64	256	1024	4096	16384
5	25	125	625	3125	15625	78125
6	36	216	1296	7776	46656	279936
7	49	343	2401	16807	117649	823543
8	64	512	4096	32768	262144	2097152
9	81	729	6561	59049	531441	4782969

2 div. 725) 3625 resolvend.  
 3625 product. 133225 proof.

2d.] Required the square root of 72, to eight decimal places.

72.00000000  
 64  
 164(800  
 656  
 1688)14400  
 13504  
 16965)89600  
 84825  
 169702)477500  
 339404  
 169704)138096  
 135763  
 2333  
 1697  
 636  
 509  
 127  
 118

After getting half of the decimal places, work by contracted division for the other half; and obtain them with the same accuracy as if the work had been at large.

3d.] Required the square root of .2916.

.2916(.54 root.  
 25  
 104 416  
 416

If the square root of a vulgar fraction be required, find the root of the given numerator for a new numerator, and find the root of the given denominator for a new denominator. Thus the square root of  $\frac{4}{9}$  is  $\frac{2}{3}$ , and the root of  $\frac{16}{25}$  is  $\frac{4}{5}$ ; and thus the root of  $\frac{25}{16}$  ( $=6\frac{1}{4}$ ) is  $\frac{5}{4}$ .

But if the root of either the numerator or denominator cannot be extracted without a remainder, reduce the vulgar fraction to a decimal, and then extract the root, as in Ex. 3d. above.

SECT. II. EXTRACTION OF THE CUBE ROOT.

35

RULE I. "Divide the given number into periods of three figures, beginning at the right hand in integers, and pointing toward the left. But in decimals, begin at the place of thousands, and point toward the right. The number of periods shows the number of figures in the root."

II. "Find by the table of powers, or by trial, the nearest lesser root of the left-hand period; place the figure so found in the quot; subtract its cube from the said period; and to the remainder bring down the next period for a dividend or resolvend."

The divisor consists of three parts, which may be found as follows.

SECT. I. EXTRACTION OF THE SQUARE ROOT.

34

RULE I. "Divide the given number into periods of two figures, beginning at the right hand in integers, and pointing toward the left. But in decimals, begin at the place of hundreds, and point toward the right. Every period will give one figure in the root."

II. "Find by the table of powers, or by trial, the nearest lesser root of the left-hand period; place the figure so found in the quot; subtract its square from the said period, and to the remainder bring down the next period for a dividend or resolvend."

III. "Double the quot for the first part of the divisor; inquire how often this first part is contained in the whole resolvend, excluding the units place; and place the figure denoting the answer both in the quot and on the right of the first part; and you have the divisor complete."

IV. "Multiply the divisor thus completed by the figure put in the quot, subtract the product from the resolvend, and to the remainder bring down the following period for a new resolvend, and then proceed as before."

Note 1st. If the first part of the divisor, with unity supposed to be annexed to it, happen to be greater than the resolvend, in this case place 0 in the quot, and also on the right of the partial divisor; to the resolvend bring down another period; and proceed to divide as before.

Note 2. If the product of the quotient figure into the divisor happen to be greater than the resolvend, you must go back, and give a lesser figure to the quot.

Note 3. If, after every period of the given number is brought down, there happen at last to be a remainder, you may continue the operation, by annexing periods or pairs of cyphers, till there be no remainder, or till the decimal part of the quot repeat or circulate, or till you think proper to limit it.

Ex. 1st. Required the square root of 133225.

Square number 133225(365 root      365  
 9    365  
 1 div. 66) 432 resolvend.              1825  
 396 product.                              2190  
    1095



Extraction of Roots.

III. "The first part of the divisor is found thus: Multiply the square of the quot by 3, and to the product annex two cyphers; then inquire how often this first part of the divisor is contained in the resolvend, and place the figure denoting the answer in the quot."

IV. "Multiply the former quot by 3, and the product by the figure now put in the quot; to this last product annex a cypher; and you have the second part of the divisor. Again, Square the figure now put in the quot for the third part of the divisor; place these three parts under one another, as in addition; and their sum will be the divisor complete."

V. "Multiply the divisor, thus completed, by the figure last put in the quot, subtract the product from the resolvend, and to the remainder bring down the following period for a new resolvend, and then proceed as before."

Note 1. If the first part of the divisor happen to be equal to or greater than the resolvend, in this case, place 0 in the quot, annex two cyphers to the said first part of the divisor, to the resolvend bring down another period, and proceed to divide as before.

Note 2. If the product of the quotient figure into the divisor happen to be greater than the resolvend, you must go back, and give a lesser figure to the quot.

Note 3. If, after every period of the given number is brought down, there happen at last to be a remainder, you may continue the operation by annexing periods of three cyphers till there be no remainder, or till you have as many decimal places in the root as you judge necessary.

Ex. 1st. Required the cube root of 12812904.

Cube number 12812904 (234 root.)

1st part 1200	} 4812 resolvend.
2d part 180	
3d part 9	
1 divisor 1389 × 3 = 4167 product.	
1st part 158700	} 645904 resolvend.
2d part 2760	
3d part 16	
2 divisor 161476 × 4 = 645904 product.	

PROOF.

234	Square 54756
234	234
936	219024
702	164268
468	109512
Square 54756	Cube 12812904
2d.] Required the cube root of 28 $\frac{3}{4}$ .	

28.750000 (3.06 root.)

270000	} 1750000 resolv.
5400	
36	

Div. 275436 × 6 = 1652616 prod.

97384 rem.

PROOF.

3.06	Sq. 9.3636
3.06	3.06
1836	561816
918	280908
Sq. 9.3636	28.652616
	97384 rem.
	28.750000 cube.

If the cube root of a vulgar fraction be required, find the cube root of the given numerator for a new numerator, and the cube root of the given denominator for a new denominator. Thus, the cube root of  $\frac{8}{27}$  is  $\frac{2}{3}$ , and the cube root of  $\frac{27}{64}$  is  $\frac{3}{4}$ ; and thus the cube root of  $\frac{2}{3} \times \frac{3}{4}$  (=  $15\frac{5}{8}$ ) is  $\frac{5}{2} = 2\frac{1}{2}$ .

But if the root of either the numerator or denominator cannot be extracted without a remainder, reduce the vulgar fraction to a decimal, and then extract the root.

A R I

ARIUS, a divine of the fourth century, the head and founder of the ARIANS, a sect which denied the eternal divinity and substantiality of the Word. He was born in Libya, near Egypt. Eusebius, bishop of Nicomedia, a great favourite of Constantia, sister of the emperor Constantine, and wife of Licinius, became a zealous promoter of Arianism. He took Arius under his protection, and introduced him to Constantia; so that the sect increased, and several bishops embraced it openly. There arose, however, such disputes in the cities, that the emperor, in order to remedy these disorders, was obliged to assemble the council of Nice, where, in the year 325, the doctrine of Arius was condemned. Arius was banished by the emperor, all his books were ordered to be burnt, and capital punishment was denounced against whoever dared to keep them. After five years banishment, he was recalled to

A R I

Constantinople, where he presented the emperor with a confession of his faith, drawn up so artfully, that it fully satisfied him. Notwithstanding which, Athanasius, now advanced to the see of Alexandria, refused to admit him and his followers to communion. This so enraged them, that, by their interest at court, they procured that prelate to be deposed and banished. But the church of Alexandria still refusing to admit Arius into their communion, the emperor sent for him to Constantinople; where, upon delivering in a fresh confession of his faith in terms less offensive, the emperor commanded Alexander, the bishop of that church, to receive him the next day into his communion: but that very evening Arius died. The manner of his death was very extraordinary: as his friends were conducting him in triumph to the great church of Constantinople, Arius, pressed by a natural necessity, stepped aside to ease himself;



Ark. himself; but expired on the spot, his bowels gushing out.

But the heresy did not die with the heresiarch: his party continued still in great credit at court. Athanasius, indeed, was soon recalled from banishment, and as soon removed again; the Arians being countenanced by the government, and making and deposing bishops as it best served their purposes. In short, this sect continued with great lustre above 300 years: it was the reigning religion of Spain for above two centuries; it was on the throne both in the east and west; it prevailed in Italy, France, Pannonia, and Africa; and was not extirpated till about the end of the 8th century.

This heresy was again set on foot in the west by Servetus, who, in 1531, wrote a little treatise against the mystery of the Trinity. After his death Arianism got footing in Geneva; from whence it removed into Poland; but at length degenerated, in a great measure, into Socinianism. Erasmus seems to have aimed at reviving Arianism, in his Commentaries on the New Testament; and the learned Grotius seems to lean a little that way.

With regard to the state of Arianism in England, it may be sufficient to observe, that from the numerous publications of that cast which are daily making their appearance, it seems to be rather a growing, than exploded, doctrine there.

Plate  
LVII.  
fig. 1.

ARK, or *Noah's ARK*, a floating vessel built by Noah, for the preservation of his family, and the several species of animals, during the deluge.

The ark has afforded several points of curious inquiry among the critics and naturalists, relating to its form, capacity, materials, &c.

The wood whereof the ark was built is called in the Hebrew *Gopher wood*, and in the Septuagint *square timbers*. Some translate the original *cedar*, others *pine*, others *box*, &c. Pelletier prefers cedar on account of its incorruptibility, and the great plenty of it in Asia; whence Herodotus and Theophrastus relate, that the kings of Egypt and Syria built whole fleets thereof, instead of deal.

The learned Mr Fuller, in his *Miscellanies*, has observed, that the wood whereof the ark was built was nothing but that which the Greeks call *κυπαρισσος*, or the *cypress tree*; for, taking away the termination, *κυπαρ* and *gopher* differ very little in sound. This observation the great Bochart has confirmed, and shown very plainly that no country abounds so much with this wood as that part of Assyria which lies about Babylon.

In what place Noah built and finished his ark is no less made a matter of disputation. But the most probable opinion is, that it was built in Chaldea, in the territories of Babylon, where there was so great a quantity of cypress in the groves and gardens in Alexander's time, that that prince built a whole fleet out of it for want of timber. And this conjecture is confirmed by the Chaldean tradition, which makes Xifuthrus (another name for Noah) set sail from that country.

The dimensions of the ark, as given by Moses, are 300 cubits in length, 50 in breadth, and 30 in height; which some have thought too scanty, considering the number of things it was to contain; and hence an argument has been drawn against the authority of the relation. To solve this difficulty many of the ancient

fathers and the modern critics, have been put to very miserable shifts: But Buteo and Kircher have proved geometrically, that taking the common cubit of a foot and a half, the ark was abundantly sufficient for all the animals supposed to be lodged in it. Snellius computes the ark to have been above half an acre in area. Father Lamy shows, that it was 110 feet longer than the church of St Mary at Paris, and 64 feet narrower: and if so, it must have been longer than St Paul's church in London, from west to east, and broader than that church is high in the inside, and 54 feet of our measure in height; and Dr Arbuthnot computes it to have been 81062 tons.

The things contained in it were, besides eight persons of Noah's family, one pair of every species of unclean animals, and seven pair of every species of clean animals, with provisions for them all during the whole year. The former appears, at first view, almost infinite; but if we come to a calculation, the number of species of animals will be found much less than is generally imagined; out of which, in this case, are excepted such animals as can live in the water; and Bishop Wilkins shows that only 72 of the quadruped kind needed a place in the ark.

By the description Moses gives of the ark, it appears to have been divided into three stories, each ten cubits or 15 feet high; and it is agreed on, as most probable, that the lowest story was for the beasts, the middle for the food, and the upper for the birds, with Noah and his family; each story being subdivided into different apartments, stalls, &c. though Josephus, Philo, and other commentators, add a kind of fourth story under all the rest; being, as it were, the hold of the vessel, to contain the ballast and receive the filth and feces of so many animals: but F. Calmet thinks, that what is here reckoned a story, was no more than what is called the *keel* of ships, and served only for a conservatory of fresh water. Drexelius makes 300 apartments; F. Fournier, 333; the anonymous author of the questions on Genesis, 400; Buteo, Temporarius, Arias Montanus, Hostius, Wilkins, Lamy, and others, suppose as many partitions as there were different sorts of animals. Pelletier makes only 72, viz. 36 for the birds, and as many for the beasts. His reason is, that if we suppose a greater number, as 333 or 400, each of the eight persons in the ark must have had 37, 41, or 50 stalls to attend and cleanse daily, which he thinks impossible to have been done. But it is observed, that there is not much in this: to diminish the number of stalls without the diminution of animals is in vain; it being perhaps more difficult to take care of 300 animals in 72 stalls than in 300. As to the number of animals contained in the ark, Buteo computes that it could not be equal to 500 horses; he even reduces the whole to the dimensions of 56 pair of oxen. F. Lamy enlarges it to 64 pair of oxen, or 128 oxen; so that, supposing one ox equal to two horses, if the ark had room for 256 horses, there must have been room for all the animals. But the same author demonstrates, that one floor of it would suffice for 500 horses, allowing nine square feet to a horse.

As to the food in the second story, it is observed by Buteo from Columella, that 30 or 40 pounds of hay ordinarily suffices for an ox a-day; and that a solid cubit of hay, as usually pressed down in our hay ricks,



Ark.

weighs about 40 pounds; so that a square cubit of hay is more than enough for one ox in one day. Now, it appears, that the second story contained 150,000 solid cubits; which divided between 206 oxen, will afford each more hay, by two-thirds, than he can eat in a year. Bishop Wilkins computes all the carnivorous animals equivalent, as to the bulk of their bodies, and their foods, to 17 wolves, and all the rest to 280 beeves. For the former he allows 1825 sheep; and for the latter, 109,500 cubits of hay: all which will be easily contained in the two first stories, and a deal of room to spare. As to the third story, nobody doubts of its being sufficient for the fowls; with Noah, his sons, and daughters. Upon the whole, the learned bishop remarks, that of the two, it appears much more difficult to assign a number and bulk of necessary things to answer the capacity of the ark, than to find sufficient room for the several species of animals already known to have been there. This he attributes to the imperfection of our list of animals, especially those of the unknown parts of the earth; adding, that the most expert mathematician at this day could not assign the proportion of a vessel better accommodated to the purpose than is here done: and hence he finally concludes, that the capacity of the ark, which had been made an objection against Scripture, ought to be esteemed a confirmation of its divine authority; since, in those ruder ages, men, being less versed in arts and philosophy, were more obnoxious to vulgar prejudices than now; so that, had it been a human invention, it would have been contrived, according to those wild apprehensions which arise from a confused and general view of things, as much too big as it had been represented too little.

But it must be observed, that, besides the places requisite for the beasts and birds, and their provisions, there was room required for Noah to lock up household utensils, the instruments of husbandry, grains, and seeds to sow the earth with after the deluge; for which purpose it is thought that he might spare room in the third story for 36 cabins, besides a kitchen, a hall, four chambers, and a space about 48 cubits in length to walk in.

Plate  
LVII.  
fig. 2.

ARK of the Covenant, a small chest or coffer, three feet nine inches in length, two feet three inches in breadth, and two feet three inches in height, in which were contained the golden pot that held manna, and Aaron's rod, and the tables of the covenant. This coffer was made of shittim wood, and covered with a lid, which was made of solid gold. The ark was repositied in the holiest place of the tabernacle. It was taken by the Philistines, and detained 20, some say 40 years, at Kirjath-jearim; but the people being afflicted with emerods on account of it, returned it with divers presents. It was afterwards placed in the temple.

The lid or covering of the ark was called the *propitiatory* or *mercy-seat*; over which were two figures placed called *Cherubims*, with expanded wings of a peculiar form. Here the *Schechinah* rested both in the tabernacle and temple in a visible cloud: hence were issued the Divine oracles by an audible voice; and the high priest appeared before this mercy-seat once every year on the great day of expiation; and the Jews, wherever they worshipped, turned their faces towards the place where the ark stood.

In the second temple there was also an ark, made of the same shape and dimensions with the first, and put in the same place, but without any of its contents and peculiar honours. It was used as a representative of the former on the day of expiation, and a repository of the original copy of the holy Scriptures, collected by Ezra and the men of the great synagogue, after the captivity. And in imitation of this, the Jews to this day have a kind of ark in their synagogues, wherein their sacred books are repositied. This they call *aron*. Leo of Modena gives a description thereof in his Account of the Customs and Ceremonies of those of his Nation. "The Jews (says he), in the eastern side of their synagogues, have an ark, or armory, called *aron*, in memory of the ark of the covenant. In this are preserved the five books of Moses, written on vellum, with ink made on purpose," &c. Some have supposed that the figure of this ark, is still remaining on the triumphal arch of Titus at Rome; though Villalpandus and others, with greater reason, are of opinion, that it is the table of shew bread. *Prideaux's Con.* vol. i. p. 209. Tertullian calls this ark *Armarium Judaicum*; whence the phrase, *to be in the armory of the synagogue*, q. d. in the number of canonical writings.

A chest or coffer, very nearly resembling the Jewish ark, and called the *house of the God*, was found in Huaheine, one of the islands in the southern sea. Mr Banks could obtain no other information concerning it than what the name imports. *Hawkefworth's Account*, &c. vol. ii. p. 252.

ARKLOW, a sea-port town of Ireland, in the county of Wicklow, and province of Leinster. W. Long. 6. 15. N. Lat. 52. 55.

ARKWRIGHT, SIR RICHARD, celebrated for his invention of machinery in spinning and carding cotton, was originally a country barber in poor circumstances, but acquired by his inventions a very great fortune. About the year 1767, when he had quitted the profession of a barber, and went up and down the country buying hair, he came to Warrington. At that time it is said, he had some mechanical project in view, of the nature of a perpetual motion. One John Kay, a clockmaker of that place becoming acquainted with him, endeavoured to dissuade him from this scheme, but said that much money might be made by spinning cotton, which he promised to describe to him. Arkwright urged as an objection, that that scheme had been the ruin of many; but he came to Kay's bedside next morning, and asked him if he could make a small engine at a moderate expence, as this Kay had been employed to make a cotton spinning engine for a Mr Hayes, who likewise employed himself in making cylindrical carding engines, and who was brought as a witness on the trial in which Arkwright's patent was set aside in 1785. Mr Hayes proved, that he had invented an engine of a similar construction to Arkwright's, but had not brought it to perfection. Arkwright and Kay made application to Peter Atherton, Esq. now of Liverpool, to make such an engine; but he refused to undertake it, from the external poverty of the former, although on the evening of the same day he undertook to give Kay the use of a smith, and watch-tool maker, to make the heavier parts of the engine; and Kay agreed to instruct the workmen, and to make the clockmakers share of it. In this manner Arkwright's

Ark

|| Arkwright.



NOAH'S ARK

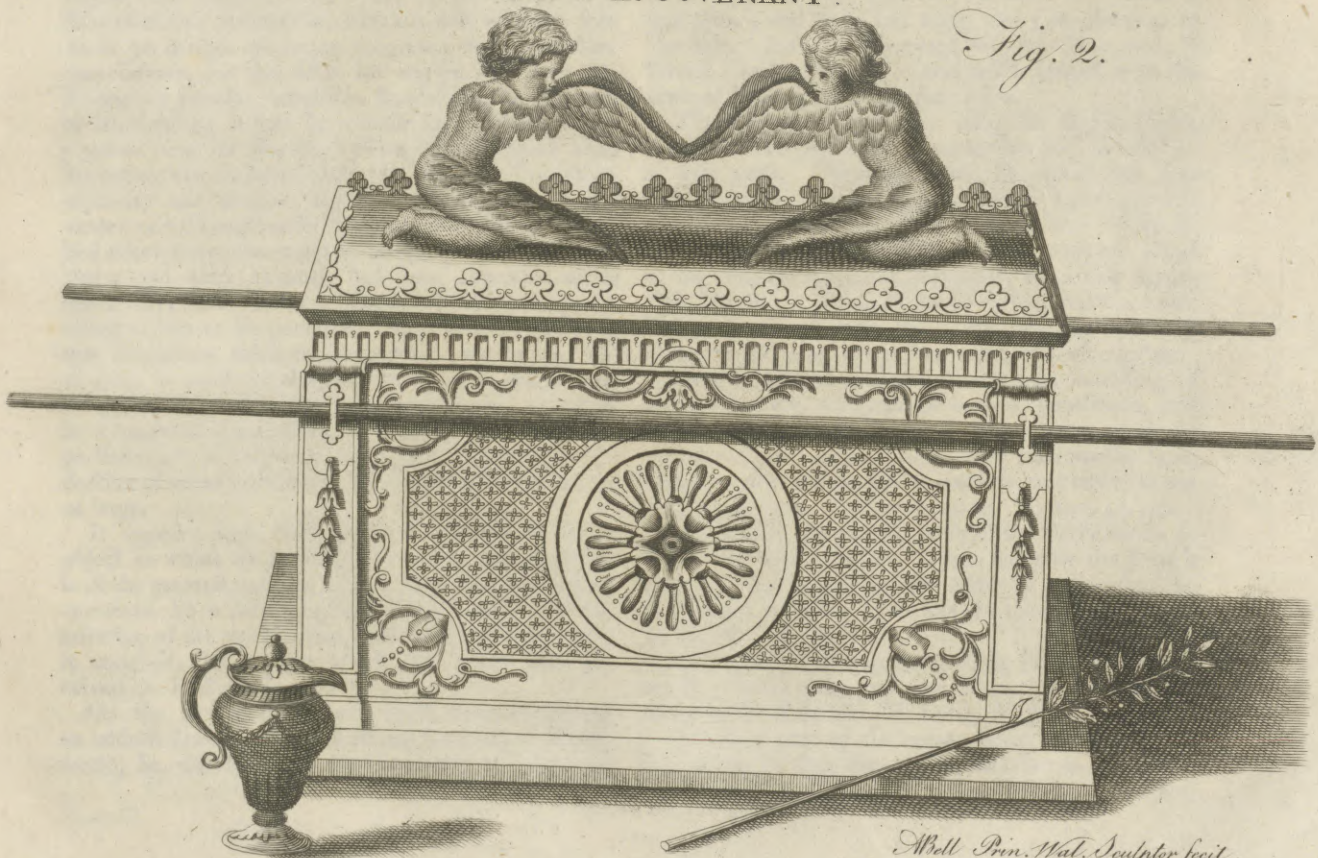
Plate LVII.

*Fig. 1. floating on the waters of the deluge.*



ARK of the COVENANT

*Fig. 2.*



*W. Bell Pin. Mat. Sculptor fecit.*



PLATE II

PLATE II

PLATE II

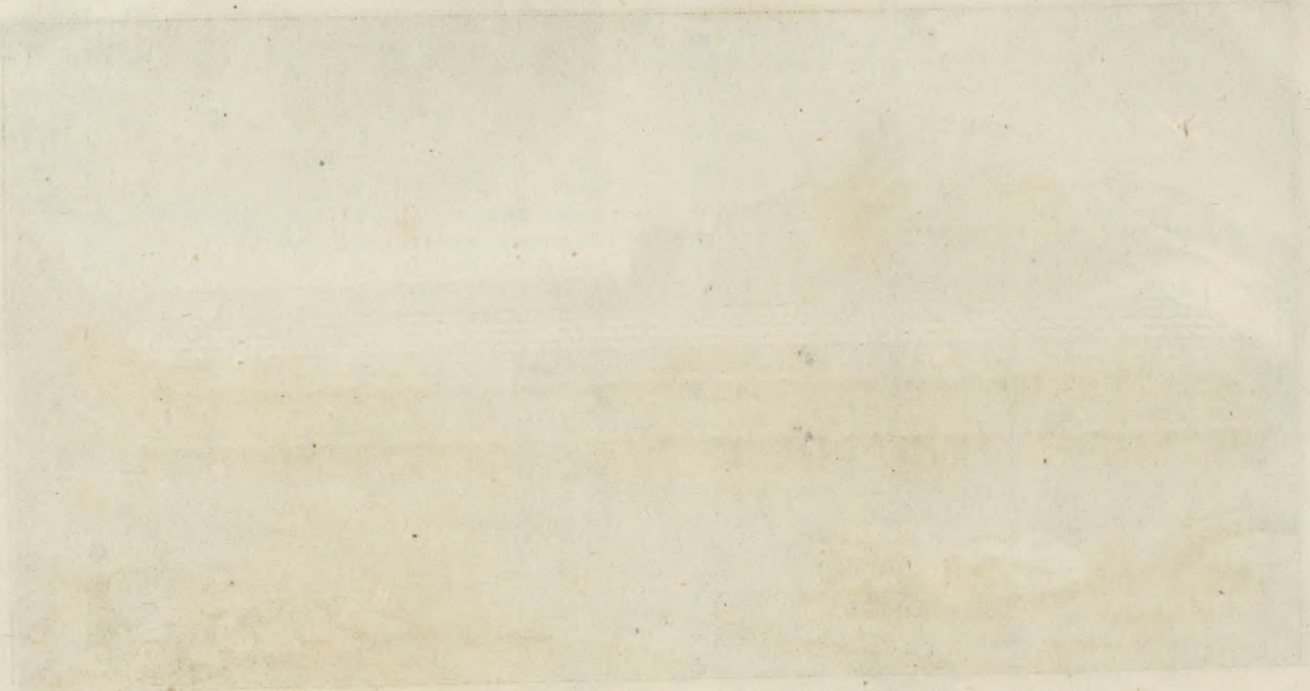


PLATE II





Arkwright wright's first engine was made, for which he afterwards took out a patent. Mr Arkwright went into partnership soon after with a Mr Smally of Preston in Lancashire, but being at a loss for money, they went to Nottingham, and there, by the assistance of some rich individuals, erected a considerable cotton mill, which was turned by horses.

The report generally circulated through the manufacturing towns is, that he borrowed these inventions, and that he enriched himself at other men's expence and ingenuity. From all accounts, however, it appears, that the cotton spinning was no new attempt at the time Mr Arkwright engaged in it, but an object which had been the subject of much attention; but as it had not succeeded, it would accordingly happen, that more difficulties were to be overcome, and subjects of subordinate inventions to be digested, and brought to maturity and effect. Although the carding and spinning of cotton before Mr Arkwright engaged in it was hardly any thing, yet it became a great national manufacture through his means. He states in his case, as drawn by himself, that one Paul and others of London, about 40 or 50 years previous to his time, having invented an engine for spinning cotton, obtained a patent for it, after which they repaired to Nottingham; and there, after having been assisted by several persons, and much money had been expended on the undertaking, many families had been ruined by the failure of their scheme;—that various engines had been constructed by different persons, for spinning cotton, flax, wool, &c. into several threads at once, about 20 or 30 years back, but that no real advantage had been derived from them; and that an engine was constructed in 1767, by one Hargrave of Blackwell in Lancashire, which would at once spin 20 or 30 threads of cotton into yarn for the fustian manufacture, but that after his engine had been destroyed by popular tumults in Lancashire, he removed to Nottingham, where for a while he practised under a patent; but an association being formed against him, his patent was rendered null, and at length he died in obscurity and distress; that he, Arkwright, had invented certain engines for spinning and carding, which had taken about five years in bringing them to perfection; and after 12,000l. had been expended upon them, they had neither produced advantage or profit either to him or his partners. As it must be allowed, that he did not think to make his scheme to bear all at once, he must certainly be considered as the person, who after many others had been unsuccessful, engaged in a national undertaking, did display so much skill, perseverance, and activity, as to make it not only productive of value to himself, but likewise to the nation at large.

It appears, from these various accounts, that the object in which Sir Richard Arkwright was engaged, is of the greatest national value; that from his various exertions, he is deserving both of the respect and admiration of the world; and, that although his family is enriched, the benefits which the nation have received are inestimably greater.

On the 22d of December, 1786, upon presenting an address from the high sheriff and hundred of Wirksworth, he was knighted by his present majesty, and

died August 3. 1793, at his works at Crumford, in Derbyshire. (*Gen. Biog.*)

ARLES, a city of France, in the department of the Mouths of the Rhone, formerly Provence, seated on the east side of the Rhone, on a hill, whose declivity is towards the north. It is an archbishop's see; and is celebrated for its antiquities both within and without the city. Those of which any remains are now to be seen at the amphitheatre, the obelisk, the Elyfian fields, the sepulchres, columns with their capitals, busts, pedestals, aqueducts, with some remains of the capitol, and the temples of their gods. The other ancient monuments are entirely destroyed. Under the amphitheatre, in 1651, they found the statue of Venus, which was worshipped by this city; and has been since carried to the castle of Versailles. It is a masterpiece which will always be admired by connoisseurs.

The amphitheatre is one of the most remarkable pieces of antiquity. It was built by the Romans, but the time is unknown, though some say by Julius Cæsar. It is of an oval form, and about 400 yards in circumference, and the front is 34 yards in height. The middle, called the *arena*, is 142 yards wide and 104 broad. The porticoes or piazzas are three stories, built with stones of a prodigious size. Each of them consists of 60 arches, which still remain; and the walls are of surprising thickness, but gone to decay.

The obelisk is the only one of this kind to be seen in France. It seems to be one of the forty brought from Egypt to Rome, because it is of the same oriental granite with them. They are generally full of hieroglyphic characters; but this is quite smooth. In 1675, it was found in a private garden near the walls of the city, not far from the Rhone. It consists of one piece; and is 52 feet high, and 7 in diameter at the base. It is now supported with four lions made of bronze; and on the top a blue ball is placed, with the arms of France, and over that a sun.

The Pagans burying place called the *Elyfian Fields*, is without the city, upon an agreeable hill, divided into two parts. The first, called *Moulaïres*, has very few tombs, they having been broken to build the walls of gardens, which are made in that place. The second, called *Eliscamp*, contains a great number. Those of the Pagans have the letters D. M. which signify *Diis Manibus*. Those of the Christians have a cross. Pieces of coin of gold, silver, and bronze, are found here; as also urns, lamps, and cups, without number.

Here is a royal academy of sciences, consisting of thirty members, who must be natives, gentlemen, and inhabitants of the city. It enjoys the same privileges as that at Paris. Arles is surrounded with marshy land, which renders the air full of vapours, and makes it not very wholesome. E. Long. 4. 48. N. Lat. 43. 40.

ARLEUX, an ancient town of the Netherlands, in Cambresis, with a castle. It was taken by the French in 1645, and retaken by the Allies in 1711; but the French got possession again the same month. E. Long. 3. 16. N. Lat. 59. 17.

ARLON, an ancient town of the Netherlands, formerly a strong place, but now dismantled. It belongs to the house of Austria. E. Long. 15. 50. Lat. 49. 4.

ARM, a part of the human body, terminating at one end in the shoulder, and at the other in the hand.

ARM,

Arles  
||  
Arm.



Arm  
||  
Armada.

ARM, among *Sportsmen*, is applied to a horse, when by pressing down his head, he endeavours to defend himself against the bit, to prevent his being checked by it. The remedy is, to have a wooden ball covered with velvet, or other matter, put on his chaul, which will so press him between the jaw bones as to prevent his bringing his head so near his breast.

ARM, in *Geography*, is used for the branch of a sea or river. Italy and Sicily are only parted by an arm of the sea. St George's arm in the Mediterranean is the Thracian Bosphorus.

ARM is also used figuratively for power. The secular arm is the lay or temporal authority of a secular judge; to which recourse is had for the execution of the sentences passed by ecclesiastical judges.

The church sheds no blood: even the judges of the inquisition, after they have found the person guilty, surrender him to the secular arm. The council of Antioch, held in 341, decrees, that recourse be had to the secular arm to repress those who refuse obedience to the church: for secular arm, they here use exterior power.

ARM, in respect of the magnet. A loadstone is said to be armed, when it is capped, cased, or set in iron or steel, in order to make it take up the greater weight, and also to distinguish readily its poles. See MAGNETISM.

ARMACALES, a river of Babylon (Abydenus); called *Fassa Regia*, the *Royal Trench* or *Cut* (Polybius); the *Royal River* (Ptolemy); *Almarchur* (Pliny); *Naarmalcha* (Ammian); a factitious channel or cut, made by Nabuchadonosor, and a horn or branch of the Euphrates, (Abydenus). The Euphrates naturally divides into two channels, one passing through Babylon, the other through Seleucia, and then falls into the Tigris; the factitious channel between these two is the Royal River; which mixes with the Tigris, a great deal lower down than Seleucia, at Apamea, (Ptolemy).

ARMADA, a Spanish term, signifying a fleet of men of war. The armada which attempted to invade England in the time of Queen Elizabeth, is famous in history.

This armada, to which the Spaniards, in confidence of success, gave the name of *Invincible*, consisted of 150 ships, most of which were greatly superior in strength and size to any that had been seen before. It had on board near 20,000 soldiers, and 8000 sailors, besides 2000 volunteers of the most distinguished families in Spain. It carried 2650 great guns, was victualled for half a year, and contained such a quantity of military stores, as only the Spanish monarch, enriched by the treasures of the Indies and America, could supply. The troops on board were to be joined by 34,000 more which the duke of Parma had assembled in the neighbourhood of Nieuport and Dunkirk. For transporting these, he had, with incredible labour, provided a great number of flat-bottomed vessels, and had brought sailors to navigate them from the towns in the Baltic. Most of these vessels had been built at Antwerp; and as he durst not venture to bring them from thence by sea to Nieuport, lest they should have been intercepted by the Dutch, he was obliged to send them along the Scheld to Ghent, from Ghent to Bruges by the canal which joins these towns, and from Bruges to Nieuport

by a new canal which he dug on the present occasion. This laborious undertaking, in which several thousand workmen had been employed, was already finished, and the duke now waited for the arrival of the Spanish fleet; hoping, that as soon as it should approach, the Dutch and English ships which cruised upon the coast would retire into their harbours.

When the news reached England that this mighty fleet was preparing to sail, terror and consternation universally seized the inhabitants. A fleet of not above 30 ships of war, and those very small in comparison, was all that was to oppose it by sea. All the commercial towns of England, however, were required to furnish ships for reinforcing this small navy. The citizens of London, instead of fifteen vessels, which they were commanded to equip, voluntarily fitted out double the number; and the gentry and nobility equipped 43 ships at their own charge. Lord Howard of Effingham was admiral; and under him served Drake, Hawkins, and Frobisher, all of them renowned as seamen of courage and capacity. The principal fleet was stationed at Plymouth. A smaller squadron, consisting of 40 vessels, English and Flemish, was commanded by Lord Seymour second son of protector Somerset, and lay off Dunkirk in order to intercept the duke of Parma.

The land forces of England were more numerous than those of the enemy, but inferior in discipline and experience. An army of 20,000 men was disposed in different bodies along the south coast, with orders to retire backwards and waste the country, if they could not prevent the Spaniards from landing; 22,000 foot and 1000 horse, under the command of the earl of Leicester, were stationed at Tilbury, in order to defend the capital; and the principal army consisting of 34,000 foot and 2000 horse, commanded by Lord Hunsdon, was reserved for guarding the queen's person, and appointed to march whithersoever the enemy should appear. These armies, though all the Spanish forces had been able to land, would possibly have been sufficient to protect the liberties of their country. But as the fate of England, in that event, must depend on the issue of a single battle, all men of serious reflection entertained the most awful apprehensions of the shock of at least 50,000 veterans, commanded by experienced officers, under so consummate a general as the duke of Parma. The queen alone was undaunted. She issued all her orders with tranquillity, animated her people to a steady resistance, and employed every resource which either her domestic situation or her foreign alliances could afford her. She even appeared on horseback in the camp at Tilbury; and riding though the lines, discovered a cheerful and animated countenance, exhorted the soldiers to remember their duty to their country and their religion, and professed her intention, though a woman, to lead them herself into the field against the enemy, and rather perish in battle than survive the ruin and slavery of her people. "I know (said she, intrepidly) I have but the weak and feeble arm of a woman; but I have the heart of a king, and of a king of England too!" The heroic spirit of Elizabeth communicated itself to the army, and every man resolved to die rather than desert his station.

The Spanish armada was ready in the beginning of May; but its sailing was retarded by the death of the marquis

Armada.



*Armada.* *marquis* of Santa Croce the admiral, and that also of the vice admiral the duke of Paliano. The command of the expedition was therefore given to the duke of Medina Sidonia, a man entirely unexperienced in sea affairs. This promotion, in some measure, served to frustrate the design, which was also rendered less successful by some other accidents. Upon leaving the port of Lisbon, the armada next day met with a violent tempest, which sunk some of the smallest of their shipping, and obliged the fleet to put back into the harbour. After some time spent in refitting they put again to sea. Being descried by Fleming, a Scottish pirate, who was roving in those seas, he immediately sailed towards the English fleet, and informed the admiral of their approach. Effingham had just time to get out of port when he saw the Spanish armada coming full sail towards him, disposed in the form of a crescent, and stretching the distance of seven miles from the extremity of one division to that of the other. The English admiral considering that the Spaniards would probably be much superior to him in close fight, by reason of the size of their ships and the number of their troops, wisely resolved to content himself with harassing them in their voyage, and with watching attentively all the advantages which might be derived from storms, cross winds, and such like fortuitous accidents. It was not long before he discerned a favourable opportunity of attacking the vice-admiral Recaldo. This he did in person; and on that occasion displayed so much dexterity in working his ship, and in loading and firing his guns, as greatly alarmed the Spaniards for the fate of the vice-admiral. From that time they kept much closer to one another; notwithstanding which, the English on the same day attacked one of the largest galleasses. Other Spanish ships came up in time to her relief; but in their hurry one of the principal galleons, which had a great part of the treasure on board, ran foul of another ship, and had one of her masts broken. In consequence of this misfortune she fell behind, and was taken by Sir Francis Drake; who on the same day took another capital ship, which had been accidentally set on fire.

Several other encounters happened, and in all of them the English proved victorious, through the great advantage which they derived from the lightness of their ships, and the dexterity of the sailors. The Spaniards in that age did not sufficiently understand nautical mechanics, to be able to avail themselves of the unusual magnitude of their ships. The English sailed round them, approached or retired, with a velocity that filled them with amazement, and did infinitely greater execution with their cannon; for while ever shot of theirs proved effectual, their ships suffered very little damage from the enemy, whose guns were planted too high, and generally spent their force in air.

The Spaniards, however, still continued to advance till they came opposite to Calais; there the duke de Medina having ordered them to cast anchor, he sent information to the duke of Parma of his arrival, and entreated him to hasten the embarkation of his forces. Farnese accordingly began to put his troops on board. But at the same time he informed Medina, that agreeably to the king's instructions, the vessels which he had prepared were proper only for transporting the

troops, but were utterly unfit for fighting; and for this reason, till the armada were brought still nearer, and the coast cleared of the Dutch ships which had blocked up the harbours of Nieuport and Dunkirk, he could not stir from his present station, without exposing his army to certain ruin, the consequence of which would probably be the entire loss of the Netherlands.

In compliance with this request, the armada was ordered to advance; and it had arrived within sight of Dunkirk, between the English fleet on the one hand, and the Dutch on the other, when a sudden calm put a stop to all its motions. In this situation the three fleets remained for one whole day. About the middle of the night a breeze sprung up; and Lord Howard had recourse to an expedient which had been happily devised on the day before. Having filled eight ships with pitch, sulphur, and other combustible materials, he let fire to them, and sent them before the wind against the different divisions of the Spanish fleet.

When the Spaniards beheld these ships in flames approaching towards them, it brought to their remembrance the havock which had been made by the fire ships employed against the duke of Parma's bridge at the siege of Antwerp. The darkness of the night increased the terror with which their imaginations were overwhelmed, and the panic flew from one end of the fleet to the other. Each crew, anxious only for their own preservation, thought of nothing but how to escape from the present danger. Some of them took time to weigh their anchors, but others cut their cables, and suffered their ships to drive with blind precipitation, without considering whether they did not thereby expose themselves to a greater danger than that which they were so solicitous to avoid. In this confusion the ships ran foul of one another: the shock was dreadful, and several of them received so much damage as to be rendered unfit for future use.

When day light returned, Lord Howard had the satisfaction to perceive that his stratagem had fully produced the desired effect. The enemy were still in extreme disorder, and their ships widely separated and dispersed. His fleet had lately received a great augmentation by the ships fitted out by the nobility and gentry, and by those under Lord Seymour, who had left Justin de Nassau as alone sufficient to guard the coast of Flanders. Being bravely seconded by Sir Francis Drake and all the other officers, he made haste to improve the advantage which was now presented to him, and attacked the enemy in different quarters at the same time with the utmost impetuosity and ardour. The engagement began at four in the morning and lasted till six at night. The Spaniards displayed in every rencounter the most intrepid bravery; but, from the causes already mentioned, they did very little execution against the English; while many of their own ships were greatly damaged, and twelve of the largest were either run aground, or sunk, or compelled to surrender.

It was now evident that the purpose of the armada was utterly frustrated. The Spanish admiral, after many unsuccessful rencounters, prepared therefore to make his way home; but as the winds were contrary to his return through the Channel, he resolved to take  
the



Armadilla  
||  
Armagh.

the circuit of the island. The English fleet followed him for some time; and had not their ammunition fallen short, through the negligence of the public offices in supplying them, they had obliged the armada to surrender at discretion. Such a conclusion of that vain-glorious enterprise would have been truly illustrious to the English, but the event was scarcely less fatal to the Spaniards. The armada was attacked by a violent storm in passing the Orkneys; and the ships, having already lost their anchors, were obliged to keep at sea, while the mariners, unaccustomed to hardships, and unable to manage such unwieldy vessels, allowed them to drive on the Western isles of Scotland, or on the coast of Ireland, where they were miserably wrecked. Not one half of the fleet returned to Spain, and a still smaller proportion of the soldiers and seamen; yet, Philip, whose command of temper was equal to his ambition, received with an air of tranquillity the news of so humbling a disaster. "I sent my fleet (said he) to combat the English, not the elements. God be praised that the calamity is not greater!" This calamity, however, was sensibly felt all over Spain, and there was scarcely a single family of rank in the kingdom that did not go into mourning for the death of some near relation; inasmuch that Philip, dreading the effect which this universal face of sorrow might produce upon the minds of the people, imitated the conduct of the Roman senate after the battle of Cannæ, and published an edict to abridge the time of public mourning.

ARMADILLA, in Spanish America, denotes a squadron of men of war, to the number of six or eight from twenty-four to fifty pieces of cannon, which the king maintains, to prevent foreigners from trading with the Spaniards and the Indians, both in time of war and peace.

The vessels of this *armadilla* are those that have been so much talked of, under the name of *guarda costas*. They have even power to take all Spanish merchant ships they meet with on the coast that have not licenses from the king.

The South sea has its *armadilla* as well as the North sea. The ordinary abode of the former are at Calao, a port of Lima; that of the latter at Carthagena.

ARMADILLO, in *Zoology*, a synonyme of the *dasypus*. See *DASYPUS*.

ARMAGEDDON, a place spoken of in the Revelation (xvi. 16.), which literally signifies the mountain of Mageddon or Megiddo, a city situated in the great plain at the foot of Mount Carmel, where King Josiah received his mortal wound in the battle against Necho king of Egypt. At Armageddon, the three unclean spirits, coming out of the dragon's mouth, shall gather together the kings of the earth to the battle of the great day of God Almighty (Rev. xvi. 13, 14.) The word *armageddon*, according to Mr Poole, does not signify any particular place, but is here an allusion, as some think, to that of Megiddo, mentioned Judges v. 19. where Barak overcame Sisera with his great army, and where Josiah was slain (2 Kings xxiii. 30.) Others translate this word, *the mountain of the gospel*, and others, *the mountain of apples or fruits*.

ARMAGH, a county of Ireland, bounded by Louth on the south; Lough-Neagh, on the north; Tyrone and Monaghan, on the west; and Down, in

part, on the east, from which it is separated by the river Newry. It is in length 32 miles, in breadth 17; and is divided into five baronies, containing about 170,620 acres. Both the air and soil are good, especially the latter, which is said to be the richest in Ireland; only there is a certain tract in it called the *Fewes*, that is, *billy* and *barren*. The members it sends to parliament are six, viz. two for the city of Armagh, two for the county, and two for the borough of Charlemont.

Armagh, standing near the river Kalin, gives name to the county, and is the see of the primate of all Ireland. It is said to have been founded by St Patrick in the fifth century: and in 1142, it was constituted an archbishoprick, together with Dublin, Cashel, and Tuam, by Cardinal Papyreo, with the consent of the king, dukes, bishops, abbots, and states of Ireland. This Papyreo was sent into Ireland by Pope Eugenius, to reform the abuses that had crept into the church discipline of that country. Here was anciently a famous monastery built by St Columbo, or Columbanus, about the year 610. The cathedral was often burnt, but as often rebuilt and enlarged, and particularly by Patrick Scanlain, about 1262. His successor Nicholas, son of Molissa, besides books, rich ecclesiastical vestments, and other things, bestowed on it an annual pension of twenty marks. He appropriated also to his see the manor of Dromyskin. He died the 10th of May, 1303. This town was first subjected to the English by John de Courcy; but afterwards entirely destroyed by Tir Oen, or O'Neal, in Queen Elizabeth's time. However, it was afterwards recovered, rebuilt, and garrisoned by the English.

The see of Armagh is valued in the king's books, by an extent taken *anno* 30th Henry VIII. at 183l. 17s. 5½d. Irish money *per annum*, which amounts to 137l. 18s. 0¾d. the difference between Irish and Sterling money being at that time one-fourth). But by an extent returned in the 15th of James I. it is valued at 400l. sterling *per annum*, and pays so much first fruits to this day. It is reputed to be worth annually 8000l. The chapter of Armagh is composed of five dignitaries and four prebendaries, who have voices in every capitular act. The dignitaries are thus ranked, viz. a dean, chanter, chancellor, treasurer, and archdeacon. There are also eight vicars choral, and an organist, attendant on the service of the cathedral. The vicars choral were anciently fewer; and of the number only one priest. Primate Marsh added another priest, but without increasing the number of vicars. In the year 1720, Primate Lindsay obtained a new charter for enlarging the number of the said vicars to eight, and laid out upwards of 4000l. on a purchase, in augmentation of the estate of the choir.

ARMAGNAC, formerly a province of Guienne in France, which with Gascony now forms the department of Gers, is 55 miles in length and 40 in breadth; bounded on the east by the river Garonne, on the south by Bigorre and Bearn, on the west by Gascony, and on the north by Condomois and Agenois: Auch is the capital town. It is fertile in corn and wine, and carries on a considerable trade in brandy, wool, and bonchretien pears, which are excellent.

ARMAMAXI, in *Antiquity*, a kind of Scythian chariots or carriages, composed of two wheels, variously

Armagh  
||  
Armamaxi.



Armament usually adorned with crowns, shields, breastplates, and other spoils, carried in procession after the images of the gods and great men.

**ARMAMENT**, a large body of forces, raised and provided with the furniture of war, either for land or sea service.

**ARMATURA**, in a general sense, is the same with what we otherwise call armour.

**ARMATURA** is more particularly used in the ancient military art, for a kind of exercise, performed with missile weapons, as darts, spears, arrows, and the like. In this sense, armatura stands contradistinguished from palatia; the latter being the exercise of the heavy-armed, the former of the light-armed.

The armatura was practised with great diligence among the Romans; they had their *campidoctores*, on purpose to instruct the *tyrones* or young soldiers in it. Under it were included the throwing of the spear or javelin, shooting with bows and arrows, &c.

**ARMATURA** is also an appellation given to the soldiers who were light armed.

**ARMATURA** is also a denomination given to the soldiers in the emperor's retinue. Of these we find two schools, mentioned in the *Notitia Imperii*, called the *armaturæ seniores* and *armaturæ juniores*. Their commander was entitled *tribunus armaturarum*.

**ARMED**, in the sea language. A cross bar shot is said to be armed, when some rope yarn or the like is railed about the end of the iron bar, which runs through the shot.

**ARMED**, in *Heraldry*, is used when the horns, feet, beak, or talons, of any beast or bird of prey, are of a different colour from the rest of their body.

**ARMED**. *Ship*, a vessel occasionally taken into the service of the government in time of war, and employed to guard some particular coast, or attend on a fleet. She is therefore armed and equipped in all respects like a ship of war, and commanded by an officer of the navy, who has the rank of master and commander. All ships of this sort are upon the establishment of the king's sloop, having a lieutenant, master, purser, surgeon, &c.

**ARMENE**, or **ARMINA**, anciently a hamlet of Paphlagonia, (Ptolemy). The inhabitants encompassed it with a wall, because of the coldness of the place, imagining by that means to render it warmer. But this proving ineffectual, gave rise to the proverb *Armenen muro cingere*, used to express some egregious folly.

**ARMENIA**, a country of Asia, anciently divided into Armenia Major and Minor. Armenia Major, according to Strabo, was bounded on the south by Mount Taurus, which separated it from Mesopotamia; on the east, by the two Medias; on the north, by Iberia and Albania, or rather that part of Mount Caucasus which surrounds them both; and on the west, by Armenia Minor, or the mountains Paryadres, some Pontic nations, and the Euphrates. The most considerable cities were Artaxata, Tigranocerta, and Thedosiopolis. — Armenia Minor was bounded on the east by the Euphrates; on the south by Mount Taurus, which separated it from Cilicia; on the west and north, by a long chain of mountains called in different places *Mons Scordiscus*, *Amanus*, and *Antitaurus*, by which it was separated from Cappadocia.

Whence this tract received the name of *Armenia* is

VOL II. Part II.

not determined. The Greeks suppose it to be so called from one *Armenus*, who attended Jason in the Argonautic expedition, and afterwards settled in this country. Others, transforming Armenia into Aramia, derive its name from Aram the son of Shem, or from one of the kings of Armenia bearing that name. Bochart imagines it to be a contraction or compound of *Aar*, a Hebrew word signifying a "mountain," and *Mini* signifying "metal," and which was the name of a province of Armenia mentioned by the prophet Jeremiah.

Herodotus derives the ancient Armenians from the Phrygians, by reason that several Phrygian words were crept into the ancient Armenian language. But Strabo reckons them to have been originally Syrians, which Bochart looks upon to be the most probable opinion.

Armenia is said to have been very early advanced to the honour of a kingdom. Berosus makes one Sytha the first founder of this monarchy, whose successor Bardanes, he says, was driven out by Ninus king of Assyria. Plutarch mentions one Araxes king of Armenia, who in a war with the Persians, being assured of success by an oracle, provided he sacrificed his two daughters, caused the two daughters of one Miesalcus, a nobleman of his court, to be sacrificed in their stead, flattering himself that he thereby complied with the oracle. But Miesalcus did not fail to revenge the death of his own daughters by putting the king's two daughters to death, and pursued himself so closely, that he was drowned in attempting to swim across the Araxes, which was then called *Helmus*.

The Armenians were in process of time subdued by the Medes, to whom Astyages made them tributaries, but allowed them to be governed by their own kings; but on the dissolution of the Median empire by Cyrus, the kingdom was reduced to the form of a province, and they were governed by Persian prefects or lieutenants. On the destruction of the Persian empire by Alexander the Great, Armenia fell into the hands of the Macedonians; to whom it continued subject till the beginning of the reign of Antiochus the Great. This prince having appointed two prefects, called *Zadriades* and *Artaxias*, to govern Armenia, they excited the people to a revolt, and caused themselves to be proclaimed kings of the provinces over which they presided. Antiochus being then very young, they were attended with success beyond their expectation; which encouraged them to attempt the enlargement of their territories. Accordingly, invading the neighbouring countries, they took from the Medes the provinces of Caspiana, Phaunitis, and Baforopida; from the Iberians Chorzena and Gogorena on the other side of the Cyrus; from the Chalybes and Mossynæci, the provinces of Pareneta and Herexena, which bordered on Armenia Minor.

On this occasion, the above-mentioned division of the kingdom into Armenia Major and Minor first took place. Artaxias became king of Armenia Major, and Zadriades of Armenia Minor; and this distinction subsists even at this day.

By whom Artaxias was succeeded is not known; neither have we any account of the transactions of his reign, farther than that Antiochus led a powerful army against him and Zadriades, but without being able to recover a single province. Upon this he concluded a peace, desigining to fall upon them at a proper opportunity;



Armenia.

portunity; but they having entered into alliance with the Romans, by that means secured themselves in the possession of their kingdom. After this, Artaxias was defeated and taken prisoner by Antiochus Epiphanes; but somehow or other, seems to have been restored to his kingdom.

From this time we meet with a chasm in the Armenian history for 70 years; during which all we know is, that Tigranes, the king's son, was delivered up as an hostage to the Parthians; from whence it is plain, that the Armenians had been carrying on an unsuccessful war with that nation. On the news of his father's death, however, the Parthians set the young king at liberty, having first obliged him to give up a considerable part of his kingdom by way of ransom.

Tigranes being thus restored to his father's kingdom, was prevailed upon in the beginning of his reign to enter into an alliance with Mithridates Eupator against the Romans, whose power began to give jealousy to all the princes of Asia. One of the articles of this treaty was, that Mithridates should have the cities and conquered countries, and Tigranes the captives and plunder. In consequence of this, Tigranes was to invade Cappadocia, which he had lately been obliged, by a decree of the senate of Rome, to give up to Ariobarzanes. But before either of the princes took the field, a marriage was solemnized with all possible magnificence between Tigranes and Cleopatra the daughter of Mithridates.

Immediately after the nuptials, Tigranes set out on his intended expedition; and Ariobarzanes, on the first news of his march, abandoned his kingdom and fled to Rome. Thus Tigranes, without fighting a stroke, enriched himself with the booty, and then proclaimed Ariarathes, Mithridates's son, king of Cappadocia, to the universal satisfaction of the people.

In the mean time, the Syrians being harassed with a long and intestine war of the Seleucidæ, invited Tigranes to come and take possession of their country; which he accordingly did, and kept it for 18 years, till he was driven out by Pompey, and Syria reduced to the form of a Roman province. Encouraged by this success, he next invaded Armenia Minor: defeated and killed King Artanes, who opposed him with a considerable army; and in one campaign made himself master of the whole kingdom. From Armenia Minor he marched against the Asiatic Greeks, the Adiabeniens, the Assyrians, and the Gordians, carrying all before him, and obliging the people wherever he came to acknowledge him sovereign. From this second expedition he returned home loaded with booty, which he soon after increased by the spoils of Cappadocia, invading that kingdom a second time at the instance of Mithridates, who had been obliged by the Romans to withdraw his forces from thence. From Cappadocia Tigranes, besides other booty, brought back into Armenia no fewer than 300,000 captives, having surrounded the country with his numerous forces in such a manner that none could escape. These, together with the prisoners he had taken in his two first expeditions, he employed in building the city of Tigranocerta, which they afterwards peopled.

In the mean time Mithridates, who had concluded a peace with the Romans for no other end than to gain time, sent a solemn embassy to Tigranes, inviting him

Armenia.

to enter into a second alliance against the common enemy. This he at first declined; but in the end was prevailed upon by his wife Cleopatra to send him considerable supplies, though he never came heartily into the war, not caring to provoke the Romans, who on their part kept fair with him, taking no notice for the present of the supplies he had sent Mithridates. That unfortunate prince being soon after defeated by Lucullus, was forced to fly for shelter into Armenia, where he met with a very cold reception from his son-in-law, who would neither see him, treat with him, nor own him as his relation; however, he promised to protect his person, and allowed him in one of his castles a princely retinue, and a table suitable to his former condition.

Though this total overthrow of Mithridates might have opened the eyes of Tigranes, and made him oppose with all his might the growing power of the Romans, he foolishly left them to finish their conquest of Pontus, while he marched at the head of a very numerous army against the Parthians, with a design to recover from them the dominions they had formerly extorted from him before they set him at liberty. These he easily retook; and not satisfied with what formerly belonged to him, he added to them all Mesopotamia, the countries that lay about Ninus and Arbela and the fruitful province of Mygdonia; the Parthians, though at that time a mighty people, flying everywhere before him. From Mesopotamia Tigranes marched into Syria to quell a rebellion which had been raised by Cleopatra, surnamed *Selene*; who, after the death of her husband Antiochus Pius, reigned jointly with her sons in that part of Syria which Tigranes had not seized on. The malecontents were quickly reduced; and the queen herself was taken prisoner, and confined to the castle of Seleucia, where she was soon after put to death by the king's orders. From Syria Tigranes passed into Phœnicia, which he subdued either entirely or in great part, spreading far and wide the terror of his arms, insomuch that all the princes of Asia, except those who were in alliance with the Romans, either in person or by their deputies, submitted and paid homage to the conqueror.

The king, having now subdued all Syria to the borders of Egypt, and being elated with a long course of victories and prosperous events, began to look upon himself as far above the level of other crowned heads. He assumed the title of *King of kings*, and had many kings waiting upon him as menial servants. He never appeared on horseback without the attendance of four kings dressed in livery, who run by his horse; and when he gave answers to the nations that applied to him, the ambassadors stood on either side the throne with their hands clasped together, that attitude being of all others then accounted among the orientals the greatest acknowledgment of vassalage and servitude. In the midst of all this haughtiness, however, he was unexpectedly visited by an ambassador from Lucullus the Roman general, who, without any ceremony, told him, that he came to demand Mithridates king of Pontus, who had taken refuge in his dominions, and, in case of his refusal, to declare war against him. Notwithstanding his high opinion of himself, Tigranes returned a mild answer to this message: in which, however, he refused to deliver up his father-in-law; and  
being



Armenia. being highly provoked at Lucullus for not giving him the title of *King of kings* in his letter, he did not so much as bestow upon him the title of *general* in his answer. In the mean time, being informed that Zartbienus king of the Gordians had entered into a private alliance with the Romans, he put him, his wife, and children to death; and then, returning into Armenia, received with the greatest pomp imaginable his father-in-law Mithridates, whom till that time he had not admitted into his presence, though he had resided a year and eight months in his dominions. They had several private conferences; and at last Mithridates was sent back to Pontus with 10,000 horse, to raise there what disturbances he could.

Lucullus, on the other hand, hearing the king's resolution to protect Mithridates, immediately began his march for Armenia, at the head of only two legions of foot and 3000 horse, having left 6000 men in Pontus to keep that country quiet. Having passed the Euphrates without opposition, he detached two parties; one to besiege a city where he heard that Tigranes's treasure and concubines were kept; and the other under Sextilius, to block up Tigranocerta, in order to draw the king to a battle. But Tigranes, after having put to death the scout that brought him the first intelligence of the approach of the Romans, made towards Mount Taurus, which he had appointed for the place of the general rendezvous. The Roman general then despatched Murena in pursuit of the king; who, having overtaken him in a narrow pass, defeated him, and, besides all the baggage, carried off a great many prisoners, the king himself having fled in the beginning of the skirmish. After this, he sent out several parties to scour the country, in order to prevent the innumerable forces of Tigranes from joining into one body. This, however, he was not able to effect; Tigranes was joined by such numbers of Gordians, Medes, Adiabeniens, Albanians, Iberians, &c. that, before he left Mount Taurus, his army consisted, according to Plutarch, of 150,000, foot armed cap-a-pee, 35,000 pioneers, 20,000 archers and slingers, and 55,000 horse.

Lucullus was so far from being dismayed at this formidable army, that the only fear he had was lest the king should follow the advice of Mithridates, which was, not to engage the Romans, but, by ravaging the country, distress them for want of provisions. In order to draw him to a battle, therefore, he formed the siege of Tigranocerta, imagining that Tigranes would never suffer that fine city to be taken without making an attempt to relieve it. The event fully answered his expectations: Tigranes having called a council of war, it was unanimously resolved to attack the Romans; and Taxilis, whom Mithridates sent to dissuade the king from venturing a battle, was in danger of losing his head on account of the advice he gave. The Roman general, finding Tigranes disposed to come to an engagement, left Murena with 6000 men to carry on the siege, while he himself marched against the king's vast army with only 10,000 men, according to some, and the highest computations make them no more than 18,000. The Romans were at first greatly disheartened; but being encouraged by Lucullus, they immediately broke the Armenian army, who betook themselves to flight almost at the first outset. The Romans pursued them till night, making a most terrible slaugh-

ter. Plutarch informs us, that of the Armenians 100,000 foot were killed, and that very few of the cavalry escaped; whereas of the Romans only five men were killed and 100 wounded. Antiochus the philosopher mentioning this battle, says, that the sun never beheld the like: and Livy, that the Romans never fought to such a disadvantage; the conquerors not amounting to a twentieth part of the conquered. Tigranes in his flight having met with his son in as forlorn a condition as himself, resigned to him his royal robes and diadem, desiring him to shift for himself and save those royal ensigns. The young prince delivered them to a trusty friend, who, being taken by the Romans, consigned them to Lucullus.

While the king was making his escape after this terrible overthrow, he was met by Mithridates, who was marching to his assistance at the head of a considerable army. The king of Pontus cheered up his son-in-law as well as he could, and encouraged him to continue the war: advising him, instead of fruitlessly bewailing the present disaster, to rally his troops, raise new supplies, and renew the war, not questioning but that in another campaign he might repair all the losses he had sustained: but while the two kings were consulting upon these matters, Lucullus made himself master of Tigranocerta. From this city he marched into the small kingdom of Gordyene, where he celebrated, with the utmost pomp, the obsequies of King Zartbienus, whom Tigranes had put to death, lighting the funeral pile with his own hands. In this kingdom, besides immense sums of gold and silver, he met with such store of provisions as enabled him to carry on the war without putting the republic to any charge.

The two kings, having levied new forces, appointed their troops to rendezvous in the spacious plains on the other side of Mount Taurus; whereupon Lucullus, leaving Gordyene, and passing by Mount Taurus, encamped close by the enemy. Several skirmishes happened for some time between the two armies without any considerable advantage; but Lucullus could by no means draw them to a general engagement. Upon this he decamped, as if he designed to march to Artaxata and lay siege to that place, where Tigranes had left his wife and children, with great part of his treasures. He had scarce formed his camp when the enemy appeared, and sat down close by him. Lucullus did not allow them to fortify their camp, but immediately attacked them, and having put them to flight after a faint resistance, pursued them all night with great slaughter, took most of the chief officers prisoners, and returned the next day loaded with booty.

The Roman soldiers now, finding the cold very severe, though it was no later in the year than the autumnal equinox, requested their general to allow them to retire into winter quarters. This request he rejected with indignation; upon which they mutinied. Lucullus did all he could to persuade them to continue in their duty; and prevailed so far that they consented to lay siege to Nisibis in hopes of booty. This place they took: and Lucullus, to the great satisfaction of his troops, took up his winter quarters there. The next year, however, his forces again mutinied, accusing him of amassing immense wealth for himself; and throwing their empty purses at his feet, told him, that



Armenia. as he enriched himself alone, he might carry on the war by himself. He endeavoured to appease them as much as possible; but the sedition being fomented by a party who favoured Pompey the Great, at that time aspiring to the command of Lucullus's army, the latter found himself obliged to sit still and see Mithridates and Tigranes overrun Cappadocia, and recover all Armenia and greater part of Pontus. They would have gained much greater advantages, had not a son of Tigranes taken arms against his father, and obliged him to divide his troops. The father and son coming to a pitched battle, the latter was defeated, and forced to save himself in Parthia, where he persuaded Phraates, king of that country, to assist him with a numerous army against his father. Phraates having laid siege to Artaxata, Tigranes the elder was obliged to hide himself in the mountainous parts of his kingdom; upon which the king of Parthia returned home. Of this Tigranes the father being apprized, he immediately abandoned the fastnesses of the mountains; and falling upon his son at Artaxata, dispersed the rebels with great slaughter; and entered his metropolis in triumph. Tigranes the son first fled to Mithridates; but finding him reduced to great straits, having been overcome a few days before, with the loss of 40,000 men, by Pompey, he went over to the Romans, and led them into Armenia against his father as an ally of Mithridates.

Tigranes, being now quite dispirited, and unable to make head against the Romans, resolved at once to submit. Accordingly he waited on Pompey in his camp, and having delivered his sword to two lictors, prostrated himself before him, and laid his diadem at his feet. Pompey, however, gave him a gracious reception, restored him the kingdom of Armenia, but fined him of 6000 talents for making war on the Roman people without cause. As the king had appealed to the Roman general for justice against his son, Pompey heard both parties the next day, and made the son governor of Gordyene and Sophene; but the treasures that were kept in the latter he adjudged to his father, because without them he could not pay the fine. The son, being thus disappointed, endeavoured first to make his escape, and afterwards, by private messengers, solicited the inhabitants not to deliver up the treasures to his father. This being taken very much amiss by Pompey, he caused him to be kept in irons; and even then he found means to stir up Phraates king of Parthia, whose daughter he had married, against the Romans, and to form a conspiracy against his father's life; whereupon Pompey sent him in chains to Rome, where he was kept prisoner in the house of L. Flavius a senator, till the tribuneship of P. Clodius, who, being bribed with a large sum of money, set him at liberty in spite of Pompey and the senate.

Tigranes being now thoroughly humbled, willingly yielded to the Romans, Cappadocia, Syria, Cilicia, and that part of Phœnicia which he possessed, contenting himself with his paternal kingdom; and not only paid the fine laid upon him, but made large presents to Pompey, and all the officers of his army, which procured him the title of *the friend and ally of the Roman people*. He afterwards entered into a war with Phraates king of Parthia, by whom he was overcome, and would have been driven out of his kingdom, had not a

Armenia. peace been brought about by the mediation of Pompey. He ever after cultivated a strict friendship with the Romans; inasmuch that he not only refused to receive Mithridates, who fled to him after he had been routed by Pompey near Mount Stella, but even offered a reward of 100 talents to any one that would put him to death. His second son also, by name Sariafter, took up arms against him; but by the assistance of the Romans, that rebellion was soon quelled. He died in the 85th year of his age; and was succeeded by his son Artuafdes, called by Josephus *Artabazes*, by Orosius *Artabanes*, and by others *Artoadifes*.

From this time to the time of Trajan, Armenia was governed by its own kings; but as they were plainly vassals to the Romans, though they did not take that title till the reign of the emperor Nero, their history falls to be considered under that of the Romans.

By Trajan the kingdom of Armenia Major was reduced to the form of a Roman province; but it soon recovered its liberty, and was again governed by its own kings in the reigns of Constantine the Great, and his successor, to whom the kings of Armenia were feudatories. In the reign of Justin II. the Saracens subdued and held it till the irruption of the Turks, who possessed themselves of this kingdom and gave it the name of *Turcomania*. The Turks, after the reduction of Armenia, invaded Persia, and other countries subject to the emperors of the east; which gave the Armenians an opportunity of shaking off the Turkish yoke, and setting up kings of their own, by whom they were governed till the country was again subdued by Occadan, or, as some style him *Heccata*, the son of Cingis, and first cham of the Tartars. Neither was the conquest of Armenia by the Tartars so absolute as to extirpate the race of their kings; seeing we read of Haithon, surnamed the *Armenian*, reigning some time after, and going in person to treat with Mungo, the great cham of Tartary, of the concerns of his kingdom; and in our chronicles we find mention made of Leo king of Armenia, who, in the reign of Richard II. came into England to sue for aid against the Turks, by whom he had been driven from his kingdom. In the year 1472 of the Christian era, Uflan Casianes king of Armenia succeeding to the crown of Persia, made Armenia a province of that empire; in which state it continued till the year 1522, when it was subdued by Selim II. and made a province of the Turkish empire. Some say that Selim I. reduced it on his return from Persia, where he had gained a complete victory over the great Sophi Ismael. But Sansovin assures us, that in the reign of Selim I. who died in 1520, both the Lesser and Greater Armenia had their own kings; and adds, that Selim caused the head of the king of the Lesser Armenia to be cut off and sent to Venice as a mark of his victory. We read nowhere else of any kings of Armenia after it became a province of Persia. Be that as it will, the Turkish annals cited by Calvisius inform us, that Selim II. conquered Armenia in 1522, since which time it has ever continued subject to the Turks, except the eastern part, which the Persians are masters of to this day.

Concerning Armenia Minor, we find very little recorded, except what has been already mentioned, and what falls under the Roman history. It was made a Roman province by Vespasian, continued so till the division



Armenia.

division of the empire, when it was subjected to the emperors of the east; and, on the decline of their power, was subdued first by the Persians, and afterwards by the Turks, who gave it the name of *Genech*, and have kept it ever since.

This country is still divided into the Great and Small. Great Armenia comprehends what is now called *Turcomania*. It has Georgia on the north, from which it is separated by high mountains; the river Euphrates on the west; Diarbeker, Curdistan, and Aderbajan, on the south; and Shirvan on the east. The chief towns in that part of Armenia belonging to Turkey are Arzum the capital, near the springs of the Euphrates, a large city and a great thoroughfare for the caravans between Turkey and Persia; Kara, a strong city, head of the government of the same name; Bayazid, a republic of Curds, near Mount Ararat; Baha, another republic of the same; and Van or Wan, on the lake Van, the head of a government of the same name; with other towns of less note. That part of Armenia subject to Persia is chiefly contained in the province of Arân, in which are several fine towns; as, Erivan or Rivan, the capital of the whole; Ganjals, one of the finest cities in Persia, in the north of the province, near the Kur; Kapan, on the south side, near the Aras; besides Nakhivan, Aftabad Julfa, Ordabad, Baylakan or Pilkhan, on the Aras; Berdash and Shilkah on the Kur.

The country in general is full of mountains and valleys, lakes, and rivers; particularly the country about the Three Churches, near Erivan, is admirably fine, being full of rivulets, which render it extremely fruitful. Besides great quantities of all sorts of grain, here are fields of a prodigious extent covered with tobacco: but it is not a native of the place, though supposed by some to be the terrestrial paradise; for it all came originally from America. The rest of the country produces rice, cotton, flax, melons, and grapes: in short, there is nothing wanting but olives; which is by some thought to prove that the ark could not rest on Mount Ararat, because the dove brought an olive branch in her mouth, and this tree never leaves a place where it once grew. It seems, however, to have been otherwise anciently; for Strabo tells us, that the olive grew in Gogarene, a province of Armenia. They get oil to burn from the ricinus, and use linseed oil in the kitchen. The water melons are as cool as ice in the hottest day, and melt in the mouth; the best are produced in the salt lands, near the Three Churches and the river Aras. After rain, the sea salt lies in crystals upon the fields, and even crackles under the feet. About ten miles from the Three Churches, in the road to Teflis, there are pits or quarries of fossil salt, which yield enough to supply all Persia, without being exhausted: they cut it into large pieces like stone, and each buffalo carries two of them; the mountain from whence it is dug is nothing but a mass of salt, which appears like a rock of silver when the sun shines on the places not covered with earth.

This country has been remarkable for its extreme cold from the remotest antiquity; Sir John Chardin tells us, that he found ice in the rivulets in the mornings even of the month of July. In many places, also, if they had not the convenience of watering their grounds, they would be almost entirely barren.

Armenia.

The Armenians are an honest, civil, polite people, scarce troubling themselves about any thing else but trade, which they carry on in most parts of the world, by which means they have spread themselves over the east, and also a great part of Europe; and wherever they come, commerce is carried on with spirit and advantage.

The religion of the Armenians is the Christian, of the Eutychian sect: that is, they own but one nature in Jesus Christ; and when they speak of the hypostatical union, that he is perfect God and perfect man without mixture. They have a high esteem for a book they call the *Little Gospel*, which treats of the infancy of Jesus, and says that the Virgin Mary being pregnant, her sister Salome accused her of having prostituted herself; to which the Virgin answered, that she needed only to lay her hand on her belly, and she would know how the came to be with child: this Salome accordingly did, and fire came out of her belly, which consumed the half of her arm; upon which she acknowledged her fault, and drew it back; after which it was healed by putting it to the same place.

The Armenian clergy consist of patriarchs, archbishops, doctors, secular priests, and monks. The secular priests are not allowed to marry a second time; and therefore they take care to choose young healthy wives: they maintain themselves and families by following some occupation, inasmuch that they have hardly time to perform their ecclesiastical functions: they lie in the churches on the vigils of those days they are obliged to officiate.

The Armenian monks are of the order of St Basil; and every Wednesday and Friday they eat neither fish, nor eggs, nor oil, nor any thing made of milk, and during Lent they live upon nothing but roots; they are allowed wine only on the Saturday in the Holy Week, and meat on the Easter Sunday. Besides the great Lent they have four others of eight days each, which are instituted to prepare for the four great festivals of the Nativity, the Ascension, the Annunciation, and of St George; in which times they must not so much as speak of eggs, fish, oil, or butter.

The Armenians have seven sacraments; baptism, confirmation, penance, the eucharist, extreme unction, orders, and matrimony. In baptism, the child is plunged three times into the water, and the same form of words that is used with us is repeated every time; the priest then puts a small cord made with silk and cotton on the neck of the infant, and anoints his forehead, chin, stomach, arm pits, hands, and feet, making the sign of the cross on each part. When the child is baptized, he is carried home by the godfather with the sound of drums and trumpets. The women do not go to church till 40 days after their delivery; and they observe many Jewish customs.

At the communion, to which infants of two or three months old are admitted, the priests give a piece of the consecrated host soaked in the consecrated wine. The elements are covered with a great veil, and placed in a cupboard near the altar, on the side of the gospels. When the priest takes the chalice and patten, he is followed by his deacons and subdeacons, with flambeaux and plates of copper furnished with bells: in this manner, with a censer before him, he goes in procession round the sanctuary; he then sets them on the altar, pronounces



Armeniaca  
||  
Armillary.

pronounces the words of consecration, and turns himself to the people, who fall down, kiss the earth, and beat their breasts: then, after taking it himself, he distributes the host soaked in wine to the people.

The Armenians seem to place the chief part of their religion in fastings and abstinences: and among the clergy, the higher the degree the lower they must live; inasmuch that it is said the archbishops live on nothing but pulse. They consecrate holy water but once a-year; at which time every one fills a pot and carries it home, which brings in a considerable revenue to the church.

ARMENIACA. See PRUNUS.

ARMENIAN, something belonging to or produced in Armenia: thus we say, *Armenian bole*, *Armenian stone*, &c. See BOLE, and *Armenus Lapis*.

ARMENTIERS, a small handsome town of the Netherlands, in the county of Flanders, and district of Ypres. It was taken by Lewis XIV. in 1667, who dismantled it; and it now belongs to the French. It is seated on the river Lis. E. Long. 3. 3. N. Lat. 50. 40.

ARMENUS LAPIS, *Armenian stone*, in *Natural History*, a mineral substance, which is but improperly called a *stone*; being no other than an ochreous earth, and properly called *blue ochre*. It is a very valuable substance in painting, being a bright and lively blue. It was in so high esteem as a paint among the ancients, that counterfeits were continually attempted to serve in its place. Theophrastus has recorded it as a thing judged worthy a place in the Egyptian annals, which of their kings had the honour of inventing the fictitious kind; and he tells us the genuine native substance was a thing of that value, that presents were made of it to great persons, and that the Phœnicians paid their tribute in it.—It is a very beautiful earth, of an even and regular texture; and of a fine blue, sometimes deeper, sometimes paler, and frequently mixed with green. It is soft, tender, and light; of an even, but somewhat dusty surface: it adheres firmly to the tongue, and is dry, but not harsh to the touch. It easily breaks between the fingers, and does not stain the hands. It is of a brackish disagreeable taste, and does not ferment with acids. It is a very scarce fossil; but is found very pure, though but in small quantities, in the mines at Gosselaer in Saxony. It is frequently found spotted with green, and sometimes with black; and very often is mixed among the green ochre, called *berggruen* by the Germans, which has thence been erroneously called by its name. See further the article BICE.

ARMIERS, a town of Hainault, in the French Netherlands, seated on the river Sambre. E. Long. 3. 45. N. Lat. 50. 15.

ARMIGER, a title of dignity, belonging to such gentlemen as bear arms; and these are either by courtesy, as sons of noblemen, eldest sons of knights, &c.; or by creation, such as the king's servants, &c. See ESQUIRE.

ARMILLARY, in a general sense, something consisting of rings or circles.

*ARMILLARY Sphere*, an artificial sphere composed of a number of circles of the mundane sphere, put together in their natural order, to ease and assist the ima-

gination in conceiving the constitution of the heavens, and the motions of the celestial bodies. The armillary sphere revolves upon its axis within a silvered horizon, which is divided into degrees, and moveable every way upon a brass supporter. The other parts are the equinoctial, zodiac, meridian, the two tropics, and the two polar circles. See GEOGRAPHY.

ARMILUSTRIUM, in *Roman Antiquity*, a feast held among the Romans, in which they sacrificed, armed, to the sound of trumpets.

ARMINIANS, a religious sect, or party, which arose in Holland, by a separation from the Calvinists. They followed the doctrine of Arminius (see the next article); who, thinking the doctrine of Calvin, with regard to free-will, predestination, and grace, too severe, began to express his doubts concerning them in the year 1591; and upon further inquiry adopted sentiments more nearly resembling those of the Lutherans than of the Calvinists. After his appointment to the theological chair at Leyden, he thought it his duty to avow and vindicate the principles which he had embraced; and the freedom with which he published and defended them exposed him to the resentment of those that adhered to the theological system of Geneva, which then prevailed in Holland; but his principal opponent was Gomar, his colleague. The controversy which was thus begun, became more general after the death of Arminius, in the year 1609, and threatened to involve the United Provinces in civil discord. The Arminian tenets gained ground under the mild and favourable treatment of the magistrates of Holland, and were adopted by several persons of merit and distinction. The Calvinists, or Gomarists, as they were now called, appealed to a national synod: accordingly the synod of Dort was convened by order of the States General, in 1618, and was composed of ecclesiastical deputies from the United Provinces, as well as from the reformed churches of England, Hesse, Bremen, Switzerland, and the Palatinate. The principal advocate in favour of the Arminians was Episcopius, who, at that time, was professor of divinity at Leyden. It was first proposed to discuss the principal subjects in dispute, and that the Arminians should be allowed to state and vindicate the grounds on which their opinions were founded: but some difference arising as to the proper mode of conducting the debate, the Arminians were excluded from the assembly; their case was tried in their absence; and they were pronounced guilty of pestilential errors, and condemned as corrupters of the true religion. In consequence of this decision, they were treated with great severity; they were deprived of all their posts and employments; their ministers were silenced, and their congregations were suppressed. However, after the death of Prince Maurice, who had been a violent partizan in favour of the Gomarists, in the year 1625, the Arminian exiles were restored to their former reputation and tranquillity; and under the toleration of the state, they erected churches and founded a college at Amsterdam, appointing Episcopius to be the first theological professor. The Arminian system has very much prevailed in England since the time of Archbishop Laud, and its votaries in other countries are very numerous.

The distinguishing tenets of the Arminians may be comprised

Armillarium,  
Arminians.



Arminians. comprised in the following five articles; relating to predestination, universal redemption, the corruption of man, conversion, and perseverance.

1. With respect to the first, they maintained, "That God, from all eternity, determined to bestow salvation on those who he foresaw would persevere unto the end in their faith in Christ Jesus; and to inflict everlasting punishments on those who should continue in their unbelief, and resist unto the end his divine succours: so that election was conditional, and reprobation in like manner the result of foreseen infidelity and persevering wickedness."

2. On the second point the Arminians taught, "That Jesus Christ, by his sufferings and death, made an atonement for the sins of all mankind in general, and of every individual in particular; that, however, none but those who believe in him can be partakers of their divine benefit."

3. On the third article, they held, "That true faith cannot proceed from the exercise of our natural faculties and powers, nor from the force and operation of free will; since man, in consequence of his natural corruption, is incapable either of thinking or doing any good thing; and that therefore it is necessary, in order to his conversion and salvation, that he be regenerated and renewed by the operation of the Holy Ghost, which is the gift of God through Jesus Christ."

4. "That this divine grace, or energy of the Holy Ghost, begins and perfects every thing that can be called good in man, and consequently all good works are to be attributed to God alone; that, nevertheless, this grace is offered to all, and does not force men to act against their inclination, but may be resisted and rendered ineffectual by the perverse will of the impenitent sinner." Some modern Arminians interpret this and the last article with a greater latitude.

5. "That God gives to the truly faithful, who are regenerated by his grace, the means of preserving themselves in this state;" and though the first Arminians made some doubt with respect to the closing part of this article, their followers uniformly maintain, "that the regenerate may lose true justifying faith, forfeit their state of grace, and die in their sins."

The modern system of Arminianism likewise, founded on a comprehensive plan projected by Arminius himself, as appears from a passage in his last will, extends the limits of the Christian church, and relaxes the bonds of fraternal communion in such a manner, that Christians of all sects and denominations, whatever their sentiments and opinions may be, Papists excepted, may be formed into one religious body, and live together in brotherly love and concord. But, in order to avoid the reproach of being altogether unconnected by any common principles, Episcopus drew up a confession of faith, expressed for the most part in words and phrases of Holy Scripture, which the Arminians have generally adopted, though not enjoined upon them by any authoritative obligation. The Arminians are also called *Remonstrants*, from an humble petition, entitled their *Remonstrance*, which, in the year 1610, they addressed to the States of Holland. Their principal writers are Arminius, Episcopus, Vorstius, Grotius, Curcellæus, Limborch, Le Clerc, and Wetstein; not to mention many others of more modern date.

ARMINIUS, JAMES, whose real name in Low Dutch was James Harmanni, a famous Protestant divine, from whom the modern sect of Arminians (see the preceding article) take their name, was born at Oude water, in Holland, in 1560. He was ordained minister at Amsterdam on the 11th of August 1588; where he soon distinguished himself by his sermons, which were remarkable for their solidity and learning, and gained him universal applause: but Martin Lydias, professor of divinity at Franeker, judging him a fit person to refute a writing in which Beza's doctrine of predestination had been attacked by some ministers of Delft, Arminius at his entreaties undertook the task; but upon thoroughly examining the reasons on both sides, he came into the opinions he proposed to destroy, and afterwards went still farther than the ministers of Delft had done. In 1600, he opposed those who maintained that ministers should subscribe the confession and catechism every year. In 1602, a pestilential disease raged at Amsterdam, during which he acted with the greatest resolution and courage, in assisting the poor, and comforting the sick; and Lucas Trelocatus and Francis Junius dying of that disease at Leyden, the curators of that university chose Arminius professor of divinity there, and he was afterwards made doctor of divinity. Disputes upon grace were soon after kindled in that university; and he was at length engaged in a new contest, occasioned by a disputation of his concerning the divinity of the Son. These contests, his continual labour, and the concern of seeing his reputation blasted by a multitude of slanders in relation to his opinions, impaired his health, and threw him into a fit of sickness, of which he died on the 19th of October 1609. Arminius was esteemed an excellent preacher: his voice was low, but very agreeable; and his pronunciation admirable: he was easy and affable to persons of all ranks, and facetious in his conversation amongst his friends. His great desire was, that Christians would bear with one another in all controversies which did not affect the fundamentals of their religion; and when they persecuted each other for points of indifference, it gave him the utmost dissatisfaction. The curators of the university of Leyden had so great a regard for him, that they settled a pension upon his wife and children. He left several works, viz. 1. Disputationes de diversis Christianæ religionis capitibus. 2. Orationes, itemque tractatus insigniores aliquot. 3. Examen modesti libelli Gulielmi Perkinsi de prædestinationis modo et ordine, itemque de amplitudine gratiæ divinæ. 4. Analysis capituli noni ad Romanos. 5. Dissertatio de vero et genuino sensu capituli septimi epistolæ ad Romanos. 6. Amica collatio cum D. Francisco Junio de prædestinatione per literas habita. 7. Epistola ad Hippolytum à collibus."

ARMIRO, a town of Macedonia, in European Turkey; seated on the gulf of Velo. E. Long. 23. 40. N. Lat. 38. 34.

ARMISTICE, in *Military Affairs*, a temporary truce or cessation of arms for a very short space of time. The word is Latin, *armistitium*; and compounded of *arma*, arms, and *sto* "to stand, or stop."

ARMOISIN, a silk stuff, or kind of taffety, manufactured in the East Indies, at Lyons, in France, and at Lucca in Italy. That of the Indies is slighter than those made in Europe.

ARMONLAC.

Arminius  
||  
Armoisin.



Armoniac  
||  
Armourer.

ARMONIA. See AMMONIAC, CHEMISTRY *Inde.*  
ARMONICA. See HARMONICA.

ARMORIAL, something relating to arms or coats of arms. See ARMS and HERALDRY.

ARMORIC, or AREMORIC, something that belongs to the province of Bretagne, or Brittany, in France. The name *Armorica* was anciently given to all the northern and western coast of Gaul, from the Pyrenees to the Rhine; under which name it was known even in Cæsar's time. The word is of Bas Breton origin, and denotes as much as *maritime*; compounded, according to M. Menage, of *ar*, "upon," and *more*, "sea."

ARMORIST, a person skilled in the knowledge of armour.

ARMORUM CONCUSSIO, the clashing of arms practised by the Roman armies previous to an engagement, and intended to strike a panic into their enemies; It always followed the *clasticum* and the *barritus*. See CLASSICUM and BARRITUS.

ARMOUR, a defensive habit, wherewith to cover and secure the body from the attacks of an enemy. In ancient statutes this is frequently called *harnes*.—Parts of armour are, the buckler, cuirass, helmet, coat of mail, gauntlet, &c.

A complete armour anciently consisted of a casque or helm, a gorget, cuirass, gauntlets, tasses, brasslets, cuisses, and covers for the legs, to which the spurs were fastened. This they called *armour cap-a-pie*; and was the wear of the cavaliers and men at arms.—The infantry had only part of it; viz. a pot or head-piece, a cuirass, and tasses; but all light. Lastly, The horses themselves had their armour, wherewith to cover the head and neck. Of all this furniture of war, scarce any thing is now retained except the cuirass; the gorget, or neck-piece, worn by officers, being at present only a badge of honour, and of no defence.

The gallantry of going to the battle naked, without any defensive armour, prevailed so far, that the French, during the reign of Louis XIV. were obliged to be continually issuing ordonnances to restrain it; in consequence of which the general officers, and those of the cavalry, were obliged to resume the cuirass, which yet has been but ill observed.

ARMOUR, *Coat*, is the escutcheon of any person, or family, with its several charges, and other furniture; as mantling, crest, supporters, motto, &c. Thus we say, a gentleman of coat armour; meaning one who bears arms.

ARMOURER, a maker of arms, or armour.—The Roman armourers were disposed in certain places in the empire, it being forbid either to sell, or buy, or make arms elsewhere. They were exempt from all offices and taxes, and received a salary from the public.

When once they had taken the employment on themselves, neither they, nor their children, were allowed to quit it. To prevent this, they had a kind of note, or stigma, impressed on the arm, whereby they might be known. If any of them fled, or secreted their ware, the rest were obliged to answer for him; on account of which, the effects of such as died without a legal heir went to the college. There were 15 armamentaries, or repositories of arms, in the Eastern empire, placed near the frontiers, and 19 in the West-ern.

Armoury  
||  
Arms.

ARMOURER of a *ship*, a person whose office is to take care that the arms be in a condition fit for service.

ARMOURY, a storehouse of arms, or a place wherein military habiliments are kept, to be ready for use. There are armouries in the Tower, and in all arsenals, citadels, castles, &c.

ARMOURY is also used for a branch of heraldry; being the knowledge of coat armours, as to their blazons, and various intendments.

ARMOZA, or HARMOZIA, a town in Caramania, at the mouth of the Anamis, which falls into the Persian gulf (Arrian); *Armuzza*, (Ptolemy); and from this the neighbouring island, and a small kingdom, take the modern name of *Ormuz*. E. Long. 56. 17. N. Lat. 27. 20.

ARMS, ARMA, in a general sense, includes all kinds of weapons, whether for defence or offence. Nicod derives the word from the Latin phrase *quod operiant armos*, because they cover the shoulders or sides; but Varro derives *arma*, *ab arcendo*, *eo quod arceant hostes*. It is supposed that the first artificial arms were of wood, and were only employed against beasts; and that Belus, the son of Nimrod, was the first that waged war: whence, according to some, came the appellation *bellum*. Diodorus Siculus takes Belus to be the same with Mars, who first trained soldiers up to battle.—Arms of stone, and even of brass, appear to have been used before they came to iron and steel. Josephus assures us, that the patriarch Joseph first taught the use of iron arms in Egypt, arming the troops of Pharaoh with a casque and buckler.

What contributed most to render the Romans masters of the world, was, that having successively warred against all nations, they constantly renounced their own methods, arms, &c. whenever they met with better. Thus Romulus during his war with the Sabines, a bold and warlike nation, adopted their broad buckler in lieu of the small Argian buckler, which he had used till that time.

The principal arms of the ancient Britons were hatchets, scythes, lances, swords, and bucklers: the Saxons, &c. brought in the halbard, bow, arrows, arbalests, &c. By the ancient laws of England, every man was obliged to bear arms, except the judges and clergy. Under Henry VIII. it was expressly enjoined on all persons to be regularly instructed, even from their tender years, in the exercise of the arms then in use; viz. the long bow and arrows: and to be provided with a certain number of them. 33 Hen. VIII.

ARMS, *Arma*, in *Law*, are extended to any thing which a man takes in his hand in his wrath, to cast at, or strike another.

By the common law, it is an offence for persons to go or ride armed with dangerous weapons: but gentlemen may wear common armour, according to their quality, &c. 3d Inst. The king may prohibit force of arms, and punish offenders according to law; and herein every subject is bound to be aiding. Stat. 7. Edw. I. None shall come with force and arms before the king's justices, nor ride armed in affray of the peace, on pain to forfeit their armour, and to suffer imprisonment, &c. 2d Edw. III. c. 3.

The importation of arms and ammunition are prohibited by 1 Jac. II. c. 8. and by 1 W. and M. stat. 2. c. 2. Protestant subjects may have arms for their defence.



Arms.

fence. So likewise arms, &c. shipped after prohibition, are forfeited by 29 Geo. I. c. 16. sec. 2.

Arms of offence in use among us at present are, the sword, pistol, musket, bayonet, pike, &c.

The arms of the Highlanders are, the broad sword, target, poniard, and whinyar or durk, &c. There are several acts of parliament for disarming the Highlanders; see 1 Geo. I. c. 54.; 11 Geo. I. c. 26.; 19 Geo. II. c. 39.; 21 Geo. II. c. 34.; 26 Geo. II. c. 22. and 29.

*Fire Arms* are those charged with powder and ball: such are cannon, mortars, and other ordnance; muskets, carabines, pistols, and even bombs, grenades, carcasses, &c. In the History of the Royal Academy for the year 1707, we have an account of some experiments made with fire arms, differently loaded, by M. Cassini. Among other things he observes, that by loading the piece with a ball which is somewhat less than the calibre, and only laying a little gunpowder below the ball and a good deal above it, it will yield a vehement noise, but have no sensible effect or impulse on the ball. This he takes to have been all the secret of those people who pretended to sell the art of rendering one's self invulnerable, or shot proof.

*Arms, pass of*, was a kind of combat in use among the ancient cavaliers.

*Arms, stand of*. A stand of arms signifies a musket, a bayonet, a sword, belt, and cartridge-box.

*Arms of parade or courtesy*, were those used in the ancient jousts and tournaments; which were commonly unshod lances, swords without edge or point, wooden swords, and even canes.

*Arms* denote the natural weapons, or parts of defence, of beasts: as claws, teeth, tusks of elephants, beaks of birds, &c.

*Arms*, are also used figuratively for the profession of a soldier. Thus we say, He was bred to arms.

*Arms*, or *Armories*, are also used in heraldry for marks of dignity and honour, regularly composed of certain figures and colours, given or authorized by sovereigns, and borne on banners, shields, coats, &c. for the distinction of persons, families, and states; and passing by descent to posterity. They are called *arms*, in regard they are borne principally on the buckler, cuirass, banners, and other apparatus of war. They are also called *coats of arms*, *coat armour*, &c. because anciently embroidered on surcoats, &c. See *HERALDRY*. Some will have the name to have been first occasioned by the ancient knights, who in their jousts and tournaments bore certain marks (which were frequently their mistress's favours) in their armour, i. e. their helmets or shields, to distinguish them from each other.

Arms at present follow the nature of titles, which being made hereditary, these are also become so, being the several marks for distinguishing of families and kindreds, as names are of persons and individuals.

*Arms* are variously distinguished by the *Heralds*.

*Arms of Alliance*, are those which families or private persons join to their own, to denote the alliances which they have contracted by marriage.

*Arms assumptive*, are such as a man has a right to assume of himself, in virtue of some gallant action. As, if a man who is no gentleman of blood, nor has coat armour, takes a gentleman, lord, or prince, prisoner in any lawful war; he becomes entitled to bear the shield of such prisoner, and enjoy it to him and his

VOL. II. Part II.

heirs. The foundation hereof is that principle in military law, that the dominion of things taken in lawful war passes to the conqueror.

*Arms, canting*, are those wherein the figures bear an allusion to the name of the family. Such are those of the family of La Tour in Auvergne, who bear a tower; that of the family of Prado in Spain, whose field is a meadow. Most authors hold these the most noble and regular, as is shown by an infinity of instances produced by Father Varrenne and Menetrier.—They are much debased when they come to partake of the *Rebus*.

*Arms, charged*, are such as retain their ancient integrity and value, with the addition of some new honourable charge or bearing, in consideration of some noble action.

*Arms of community*, are those of bishoprics, cities, universities, and other bodies corporate.

*Arms of concession*, or augmentation of honour, are either entire arms, or else one or more figures given by princes, as a reward for some extraordinary service.

*Arms of dominion*, are those which emperors, kings, and sovereign states bear; being annexed to the territories which they possess. Thus the three lions are the arms of England; the fleurs de lys those of France, &c.

*Arms of family, or paternal arms*, are such as belong to a particular family, and which no other person has a right to assume.

*Arms, full, or entire*, are such as retain their primitive purity, integrity, or value; without any alterations, diminutions, abatements, or the like. It is a rule, that the simpler and less diversified the arms, the more noble and ancient they are. For this reason Garcias Ximenes, first king of Navarre, and his successors for several ages, bore only gules, without any figure at all.

The arms of princes of the blood, of all younger sons, and junior families, are not pure and full; but distinguished and diminished by proper differences, &c.

*Arms of patronage*, are those which governors of provinces, lords of manors, &c. add to their family arms, in token of their peculiar superiority and jurisdiction.

*Arms of pretension*, are those of such kingdoms or territories to which a prince or lord has some claim, and which he adds to his own, though the kingdoms or territories be possessed by a foreign prince or other lord. Thus the kings of England have quartered the arms of France with their own, ever since the claim of Edward III. to that kingdom, in 1330.

*Arms of succession*, are assumed by those who inherit estates, manors, &c. by will, entail, or donation, and which they either impale or quarter with their own arms.

*Arms* are also said to be *parted, couped, quartered*, &c.

*Arms* are said to be *false* and *irregular*, when there is something in them contrary to the established rules of heraldry. As, when metal is put on metal, or colour on colour, &c.

The laws, and other affairs of arms, with the cognizance of offences committed therein, belong, among us, to the earl marshal and college of arms.

*Arms, in Falconry*, denote the legs of a hawk, from the thigh to the foot. See *FALCONRY*.

Arms.



**Armstrong.** ARMSTRONG, DR JOHN, an eminent physician, poet, and miscellaneous writer, was born in Castleton parish, Roxburghshire, where his father and brother were ministers; completed his education in the university of Edinburgh, where he took his degree in physic, Feb. 4. 1732, with much reputation; and published his thesis, as the forms of that university require; the subject was *De tabe purulenta*. In 1735 he published a little humorous fugitive pamphlet in 8vo, entitled, "An Essay for abridging the Study of Physic; to which is added a Dialoguc betwixt Hygeia, Mercury, and Pluto, relating to the practice of physic, as it is managed by a certain illustrious Society. As also an Epistle from Usbek the Persian to Joshua Ward, Esq." This piece contains much fun and drollery; in the dialogue, he has caught the very spirit of Lucian. In 1737 he published a Synopsis of the History and Cure of the Venereal Disease, 8vo. This was soon followed by the *Economy of Love*; a poem which has much merit; but, it must be confessed, is too strongly tinged with the licentiousness of Ovid. It is said, however, that his maturer judgment expunged many of the luxuriances of youthful fancy, in an edition "revised and corrected by the author" in 1768. It appears by one of the cases on literary property, that Mr Millar paid 50 guineas for the copyright of this poem, which was intended as a burlesque on some didactic writers. It has been observed of Dr Armstrong, that his works have great inequalities, some of them being possessed of every requisite to be fought after in the most perfect composition, while others can hardly be considered as superior to the productions of mediocrity. *The Art of preserving Health*, his best performance, which was published in 1744, will transmit his name to posterity as one of the first English writers, has been honoured with the following testimony of a respectable critic. On this work we shall also transcribe a beautiful eulogium from an eminent physician: "Of all the poetical performances on this subject that have come to my hands, Dr Armstrong's *Art of preserving Health* is by far the best. To quote every charming description and beautiful passage of this poem, one must transcribe the whole. We cannot, however, expect new rules, where the principal design was to raise and warm the heart into a compliance with the solid precepts of the ancients, which he has enforced with great strength and elegance. And, upon the whole, he has convinced us, by his own example, that we ought not to blame antiquity for acknowledging

\* Dr Mac-  
kenzie's Hi-  
story of  
Health.

One power of physic, melody, and song."

In 1746 Dr Armstrong was appointed one of the physicians to the Hospital for Lame and Sick Soldiers behind Buckingham house. In 1751 he published his poem on Benevolence, in folio; and in 1753, "Taste, an Epistle to a young Critic." In 1758 appeared, "Sketches or Essays on various subjects, by Launcelot Temple, Esq. in two parts." In this production, which possesses much humour and knowledge of the world, and which had a remarkably rapid sale, he is supposed to have been assisted by Mr Wilkes. In 1760 he had the honour of being appointed physician to the army in Germany, where in 1671 he wrote a poem called "Day, an Epistle to John Wilkes of Aylesbury, Esq." In this poem, which is not collected in his

works, he wantonly hazarded a reflection on Church-Armymyden, ill, which drew on him the serpent-toothed vengeance of that severest of satirists, whose embalming or corrosive pen could deify or lampoon any man, according as he acquiesced with, or dissented from his political principles. In 1770 Dr Armstrong published a collection of "Miscellanies, in 2 vols.; containing, 1. The Art of preserving Health. 2. Of Benevolence, an Epistle to Eumenes. 3. Taste, an Epistle to a young Critic, 1753. 4. Imitations of Shakespeare and Spenser. 5. The Universal Almanack, by Nouredin Ali. 6. The Forced Marriage, a tragedy. 7. Sketches." In 1771 he published "A short Ramble through some parts of France and Italy, by Launcelot Temple;" and in 1773, in his own name, a quarto pamphlet, under the title of "Medical Essays;" towards the conclusion of which, he accounts for his not having such extensive practice as some of his brethren, from his not being qualified to employ the usual means, from a ticklish state of spirits, and a distempered excess of sensibility. He complains much of the behaviour of some of his brethren, of the herd of critics, and particularly of the reviewers. He died in Sept. 1779; and to the no small surprise of his friends, left behind him more than 300l. saved out of a very moderate income, arising principally from his half-pay.

ARMUYDEN, a sea port town of the United Provinces, in the island of Walcherin, formerly very flourishing; but now inconsiderable, the sea having stopped up the harbour. The salt works are its chief resource. E. Long. 3. 40. N. Lat. 51. 30.

ARMY, a large number of soldiers, consisting of horse and foot, completely armed, and provided with artillery, ammunition, provisions, &c. under the command of one general, having lieutenant-generals, major-generals, brigadiers, and other officers under him. An army is composed of squadrons and battalions; and is usually divided into three corps, and formed into three lines: the first line is called the *van-guard*, the second the *main-body*, and the third the *rear-guard* or *body of reserve*. The middle of each line is possessed by the foot; the cavalry form the right and left wing of each line; and sometimes they place squadrons of horse in the intervals between the battalions. When the army is drawn up in order of battle, the horse are placed at five feet distance from each other, and the foot at three. In each line the battalions are distant from each other 180 feet, which is nearly equal to the extent of their front; and the same holds of the squadrons, which are about 300 feet distant, the extent of their own front. These intervals are left for the squadrons and battalions of the second line to range themselves against the intervals of the first, that both may more readily march through these spaces to the enemy: the first line is usually 300 feet distant from the second, and the second from the third, that there may be sufficient room to rally when the squadrons and battalions are broken. See the article WAR.

This is to be understood of a land army only. A naval or sea army is a number of ships of war, equipped and manned with sailors and marines, under the command of an admiral, with other inferior officers under him. See NAVAL TACTICS.

It has been observed, that in Europe a prince with a million of subjects cannot keep an army of above 10,000 men, without ruining himself. It was other-

wise



Army.

wife in the ancient republics: the proportion of soldiers to the rest of the people, which is now as about one to 100, might then be as about one to eight. The reason seems owing to that equal partition of lands which the ancient founders of commonwealths made among their subjects; so that every man had a considerable property to defend, and means to defend it with: whereas, among us, the lands and riches of a nation being shared among a few, the rest have no way of subsisting but by trades, arts, and the like; and have neither any free property to defend, nor means to enable them to go to war in defence of it, without starving their families. A large part of our people are either artificers or servants, and so only minister to the luxury and effeminacy of the great. While the equality of lands subsisted, Rome, though only a little state, being refused the succours which the Latins were obliged to furnish after the taking of the city in the consulship of Camillus, presently raised ten legions within its own walls; which was more, Livy assures us, than they were able to do in his time, though masters of the greatest part of the world. A full proof, adds the historian, that we are not grown stronger; and that what swells our city is only luxury, and the means and effects of it.

Our armies anciently were a sort of militia, composed chiefly of the vassals and tenants of the lords. When each company had served the number of days or months enjoined by their tenure, or the customs of the fees they held, they returned home. The armies of the empire consist of divers bodies of troops furnished by the several circles. The gros of the French armies under the Merovingian race, consisted of infantry. Under Pepin and Charlemagne, the armies consisted almost equally of cavalry and foot: but since the declension of the Carolingian line, the fees being become hereditary, the national armies, says Le Gendre, are chiefly cavalry.

A well regulated standing army is greatly superior to a militia; although a militia, it is to be observed, after serving two or three campaigns, may become equal to a standing army, and in every respect a match for veteran troops. See MILITIA.

One of the first standing armies of which we have a distinct account, in any well authenticated history, is that of Philip of Macedon. His frequent wars with the Thracians, Illyrians, Thessalians, and some of the Greek cities in the neighbourhood of Macedon, gradually formed his troops, which in the beginning were probably militia, to the exact discipline of a standing army. When he was at peace, which was very seldom, and never for any long time together, he was careful not to disband that army. It vanquished and subdued, after a long and violent struggle, indeed, the gallant and well exercised militias of the principal republics of ancient Greece; and afterwards, with very little struggle, the effeminate and ill exercised militia of the great Persian empire. The fall of the Greek republics and of the Persian empire, was the effect of the irresistible superiority which a standing army has over every sort of militia. It is the first great revolution in the affairs of mankind of which history has preserved any distinct or circumstantial account.

The fall of Carthage, and the consequent elevation of Rome, is the second. All the varieties in the for-

tune of those two famous republics may very well be accounted for from the same cause.

From the end of the first to the beginning of the second Carthaginian war, the armies of Carthage were continually in the field, and employed under three great generals, who succeeded one another in the command; Hamilcar, his son-in-law Asdrubal, and his son Hannibal; first in chastising their own rebellious slaves, afterwards in subduing the revolted nations of Africa; and, lastly, in conquering the great kingdom of Spain. The army which Hannibal led from Spain into Italy must necessarily, in those different wars, have been gradually formed to the exact discipline of a standing army. The Romans, in the mean time, though they had not been altogether at peace, yet they had not during this period, been engaged in any war of very great consequence; and their military discipline, it is generally said, was a good deal relaxed. The Roman armies which Hannibal encountered at Trebia, Thrasymenus, and Cannæ, were militia opposed to a standing army. This circumstance, it is probable, contributed more than any other to determine the fate of those battles.

The standing army which Hannibal left behind him in Spain, had the like superiority over the militia which the Romans sent to oppose it, and in a few years, under the command of his brother the younger Asdrubal, expelled them almost entirely from that country.

Hannibal was ill supplied from home. The Roman militia, being continually in the field, became in the progress of the war a well disciplined and well exercised standing army; and the superiority of Hannibal grew every day less and less. Asdrubal judged it necessary to lead the whole, or almost the whole, of the standing army which he commanded in Spain, to the assistance of his brother in Italy. In this march he is said to have been misled by his guides; and in a country which he did not know, was surprised and attacked by another standing army, in every respect equal or superior to his own, and was entirely defeated.

When Asdrubal had left Spain, the great Scipio found nothing to oppose him but a militia inferior to his own. He conquered and subdued that militia; and in the course of the war, his own militia necessarily became a well disciplined and well exercised standing army. That standing army was afterwards carried to Africa, where it found nothing but a militia to oppose it. In order to defend Carthage, it became necessary to recal the standing army of Hannibal. The disheartened and frequently defeated African militia joined it, and at the battle of Zama composed the greater part of the troops of Hannibal. The event of that day determined the fate of the two rival republics.

From the end of the second Carthaginian war till the fall of the Roman republic, the armies of Rome were in every respect standing armies. The standing army of Macedon made some resistance to their arms. In the height of their grandeur it cost them two great wars and three great battles, to subdue that little kingdom; of which the conquest would probably have been still more difficult, had it not been for the cowardice of its last king. The militias of all the civilized nations of the ancient world, of Greece, of Syria, and



Army. of Egypt, made but a feeble resistance to the standing armies of Rome. The militias of some barbarous nations defended themselves much better. The Scythian or Tartar militia, which Mithridates drew from the countries north of the Euxine and Caspian seas, were the most formidable enemies whom the Romans had to encounter after the second Carthaginian war. The Parthian and German militias too were always respectable, and upon several occasions gained very considerable advantages over the Roman armies. In general, however, and when the Roman armies were well commanded, they appear to have been very much superior.

Many different causes contributed to relax the discipline of the Roman armies. Its extreme severity was, perhaps, one of those causes. In the days of their grandeur, when no enemy appeared capable of opposing them, their heavy armour was laid aside as unnecessarily burdensome, their laborious exercises were neglected as unnecessarily toilsome. Under the Roman emperors, besides the standing armies of Rome, those particularly which guarded the German and Pannonian frontiers, became dangerous to their masters, against whom they used frequently to set up their own generals. In order to render them less formidable, according to some authors Dioclesian, according to others Constantine, first withdrew them from the frontiers, where they had always before been encamped in great bodies, generally of two or three legions each, and dispersed them in small bodies through the different provincial towns, from whence they were scarce ever removed, but when it became necessary to repel an invasion. Small bodies of soldiers quartered in trading and manufacturing towns, and seldom removed from those quarters, became themselves tradesmen, artificers, and manufacturers. The civil came to predominate over the military character; and the standing armies of Rome gradually degenerated into a corrupt, neglected, and undisciplined militia, incapable of resisting the attack of the German and Scythian militias, which soon afterwards invaded the western empire. It was only by hiring the militia of some of those nations to oppose to that of others, that the emperors were for some time able to defend themselves. The fall of the western empire is the third great revolution in the affairs of mankind, of which ancient history has preserved any distinct or circumstantial account. It was brought about by the irresistible superiority which the militia of a barbarous has over that of a civilized nation; which the militia of a nation of shepherds has over that of a nation of husbandmen, artificers, and manufacturers. The victories which have been gained by militias have generally been not over standing armies, but over other militias in exercise and discipline inferior to themselves. Such were the victories which the Greek militia gained over that of the Persian empire; and such too were those which in later times the Swiss militia gained over that of the Austrians and Burgundians.

The military force of the German and Scythian nations, who established themselves upon the ruins of the western empire, continued for some time to be of the same kind in their new settlements as it had been in their original country. It was a militia of shepherds and husbandmen, which in time of war took the field

Army. under the command of the same chieftans whom it was accustomed to obey in peace. It was therefore tolerably well exercised and tolerably well disciplined. As arts and industry advanced, however, the authority of the chieftans gradually decayed, and the great body of the people had less time to spare for military exercises. Both the discipline and the exercise of the feudal militia, therefore, went gradually to ruin, and standing armies were gradually introduced to supply the place of it. When the expedient of a standing army, besides, had once been adopted by one civilized nation, it became necessary that all its neighbours should follow the example. They soon found that their safety depended upon their doing so, and that their own militia was altogether incapable of resisting the attack of such an army.

The soldiers of a standing army, though they may never have seen an enemy, yet have frequently appeared to possess all the courage of veteran troops, and the very moment that they took the field, to have been fit to face the hardest and most experienced veterans. In a long peace the generals perhaps may sometimes forget their skill; but where a well regulated standing army has been kept up, the soldiers seem never to forget their valour.

When a civilized nation depends for its defence upon a militia, it is at all times exposed to be conquered by any barbarous nation which happens to be in its neighbourhood. The frequent conquests of all the civilized countries in Asia by the Tartars, sufficiently demonstrates the natural superiority which the militia of a barbarous has over that of a civilized nation. A well regulated standing army is superior to every militia. Such an army, as it can best be maintained by an opulent and civilized nation, so it can alone defend such a nation against the invasion of a poor and barbarous neighbour. It is only by means of a standing army, therefore, that the civilization of any country can be perpetuated, or even preserved for any considerable time.

As it is only by means of a well regulated standing army that a civilized country can be defended, so it is only by means of it that a barbarous country can be suddenly and tolerably civilized. A standing army establishes, with an irresistible force, the law of the sovereign through the remotest provinces of the empire, and maintains some degree of regular government in countries which could not otherwise admit of any. Whoever examines with attention the improvements which Peter the Great introduced into the Russian empire, will find that they almost all resolve themselves into the establishment of a well regulated standing army. It is the instrument which executes and maintains all his other regulations. That degree of order and internal peace which that empire has ever since enjoyed, is altogether owing to the influence of that army.

Men of republican principles have been jealous of a standing army as dangerous to liberty. It certainly is so, wherever the interest of the general and that of the principal officers are not necessarily connected with the support of the constitution of the state. The standing army of Cæsar destroyed the Roman republic; the standing army of Cromwell turned the long parliament out of doors. But where the sovereign is himself the general,



Arnauld  
Arnauld.

general, and the principal nobility and gentry of the country the chief officers of the army; where the military force is placed under the command of those who have the greatest interest in the support of the civil authority, because they have themselves the greatest share of that authority; a standing army can never be dangerous to liberty: on the contrary it may, in some cases, be favourable to liberty. The security which it gives to the sovereign renders unnecessary that troublesome jealousy which in some modern republics seems to watch over the minutest actions, and to be at all times ready to disturb the peace of every citizen. Where the security of the magistrate, though supported by the principal people of the country, is endangered by every popular discontent; where a small tumult is capable of bringing about in a few hours a great revolution; the whole authority of government must be employed to suppress and punish every murmur and complaint against it. To a sovereign, on the contrary, who feels himself supported not only by the natural aristocracy of the country, but by a well regulated standing army, the rudest, the most groundless, and the most licentious remonstrances, can give little disturbance. He can safely pardon or neglect them, and his consciousness of his own superiority naturally disposes him to do so. That degree of liberty which approaches to licentiousness can be tolerated only in countries where the sovereign is secured by a well regulated standing army. It is in such countries only that the public safety does not require that the sovereign should be trusted with any discretionary power for suppressing even the impertinent wantonness of this licentious liberty.

ARNALL, WILLIAM, a noted political writer in defence of Sir Robert Walpole, was originally an attorney's clerk; but being recommended to Walpole, he employed him for a course of years in writing the *Free Briton* and other papers in defence of his administration. By the report of the secret committee, he appears to have received, in the space of four years, no less than 10,997l. 6s. 8d. out of the treasury for his writings! but spending his money as fast as it came, and his supplies stopping on Sir Robert's resignation, he died broken-hearted and in debt, in the 26th year of his age. His invention was so quick, that his honourable employer used to say, no man in England could write a pamphlet in so little time as Arnall.

ARNAUD DE MEYRVEILH, or MEREUIL, a poet of Provence, who lived at the beginning of the 13th century. He wrote a book entitled *Las recastenas de sa contesse*, and a collection of poems and sonnets. He died in the year 1220. Petrarch mentions him in his *Triumph of Love*.

ARNAUD DE VILLA NOVA, a famous physician, who lived about the end of the 13th and beginning of the 14th century. He studied at Paris and Montpellier, and travelled through Italy and Spain. He was well acquainted with languages, and particularly with the Greek, Hebrew, and Arabic. He was at great pains to gratify his ardent desire after knowledge; but this passion carried him rather too far in his researches: he endeavoured to discover future events by astrology, imagining this science to be infallible; and upon this foundation he published a prediction, that the world would come to an end in the middle of the 14th cen-

Arnauld, Arnauld-le-duc.

tury. He practised physic at Paris for some time; but having advanced some new doctrines, he drew upon himself the resentment of the university; and his friends, fearing he might be arrested, persuaded him to retire from that city. Upon his leaving France, he retired to Sicily, where he was received by King Frederick of Arragon with the greatest marks of kindness and esteem. Some time afterwards, this prince sent him to France, to attend Pope Clement in an illness; and he was shipwrecked on the coast of Genoa, about the year 1313. The works of Arnaud, with his life prefixed, were printed in one volume in folio, at Lyons, in 1520; and at Basil in 1585, with the notes of Nicholas Tolerus.

ARNAUD D'ANDILLY, Robert, the son of a celebrated advocate of the parliament of Paris, was born in 1588; and being introduced young at court, was employed in many considerable offices, all which he discharged with great integrity and reputation. In 1644 he quitted business, and retired into the convent of Port Royal des Champs, where he passed the remainder of his days in a continued application to works of piety and devotion; and enriched the French language with many excellent translations of different writers, as well as with religious compositions of his own. He died in 1674, and his works are printed in 8 vols. folio.

ARNAUD, Antony, brother of the preceding, and a doctor of the Sorbonne, was born in 1612. He published, in 1643, *A Treatise on frequent Communion*, which highly displeased the Jesuits; and the disputes upon grace, which broke out about this time in the university of Paris, and in which he took a zealous part with the Janсениsts, helped to increase the animosity between him and the Jesuits. But nothing raised so great a clamour against him as the two letters he wrote on *Abjuration*; in the second of which the faculty of divinity found two propositions which they condemned, and M. Arnaud was expelled the society. Upon this he retired; and during a retreat which lasted near 25 years, he composed that great variety of works which are extant of his, on grammar, geometry, logic, metaphysics, and theology. In 1679, he withdrew from France, living in obscurity in the Netherlands, and died in 1694. His heart, at his own request, was sent to be deposited in the Port Royal. Arnaud had a remarkable strength of genius, memory, and command of his pen; nor did these decay even to the last year of his life. Mr Bayle says, he had been told by persons who had been admitted into his familiar conversation, that he was a man very simple in his manners; and that unless any one proposed some question to him, or desired some information, he said nothing that was beyond common conversation, or that might make one take him for a man of great abilities; but when he set himself to give an answer to such as proposed a point of learning, he seemed as it were transformed into another man: he would then deliver a multitude of fine things with great perspicuity and learning, and had a particular talent at making himself intelligible to persons not of the greatest penetration.

ARNAY-LE-DUC, a town of France, in the duchy of Burgundy, which carries on a pretty good trade. It is seated on the Auxois, in a valley near the river Aroux. E. Long. 4. 26. N. Lat. 47. 7.

ARNDT,



Arndt  
||  
Arnisæus.

ARNDT, JOHN, a famous Protestant divine of Germany, born at Ballenitad, in the duchy of Anhalt, in the year 1555. At first he applied himself to the study of physic: but falling into a dangerous sickness, he made a vow to change his profession for that of divinity, if he should be restored to health; which he accordingly did upon his recovery. He was minister first at Quedlinburg and then at Brunswick. He met with great opposition in this last city: his success as a preacher raised the enmity of his brethren, who became his bitter enemies. In order to ruin his character, they ascribed a variety of errors to him; and persecuted him to such a degree, that he was obliged to leave Brunswick, and retire to Isleb, where he was minister for three years. In 1611, George duke of Lunenburgh, who had a high opinion of his integrity and sanctity, gave him the church of Zell, and appointed him superintendent of all the churches in the duchy of Lunenburg; which office he discharged for 11 years, and died in 1621. It is reported that he foretold his death, having said to his wife, upon his return home after his last sermon, that now he had preached his funeral sermon. He wrote in High Dutch *A Treatise on true Christianity*, which has been translated into several languages.

ARNE, DR THOMAS AUGUSTINE, distinguished by his skill in music, was the son of Mr Arne an upholsterer in Covent Garden, whom Addison is supposed to have characterized in N<sup>o</sup> 155 and N<sup>o</sup> 160 of *The Tatler*; and brother of Mrs Cibber the player. He was early devoted to music, and soon became eminent in his profession. July 6. 1759, he had the degree of doctor of music conferred on him at Oxford. His compositions are universally applauded, and he was also particularly skilful in instructing vocal performers. He died March 5. 1778, having written the following pieces: *Artaxerxes*, 1762; *The Guardian outwitted*, 1764; *The Rose*, 1778; all of them operas.

ARNHEIM, a town of the Low Countries, in the province of Guelderland, capital of Veluwe. It is adorned with several fine churches, particularly that of St Walburg and of St Eusebius; which last has a very high tower. The town has five gates, and several fine ramparts, part of which are washed by the Rhine and the other parts have wide and deep ditches before them. There is a canal made between this place and Nimeguen, at the expence of both towns, on which boats pass backwards and forwards to carry on a trade between them. The air is very healthful; on which account it is inhabited by persons of distinction. E. Long. 5. 55. N. Lat. 52. 0.

ARNICA, LEOPARDS BANE. See *BOTANY Index*.

ARNISÆUS, HENNINGUS, a philosopher and physician of great reputation, about the beginning of the 17th century. He was born at Halberstadt in Germany, and was professor of physic in the university of Helmstadt. His political works are much esteemed. The most remarkable of them is his book *De autoritate principum in populum semper inviolabili*, printed at Francfort in 1612. In this he maintains that the authority of princes ought not to be violated. He wrote also upon the same doctrine his three books, *De jure Majestatis*, printed at the same place in 1610; and his *Reflectiones Politicae*, printed at Francfort in 1615.

Having received an invitation to go to Denmark, he went thither, and was made counsellor and physician to the king. He travelled into France and England, and died in November 1635. Besides the pieces already mentioned, he wrote several philosophical, medicinal, and political treatises.

Arnobius,  
Arnold.

ARNOBIUS, professor of rhetoric at Sicca, in Numidia, towards the end of the third century. It was owing to certain dreams which he had that he became desirous of embracing Christianity. For this purpose he applied to the bishops to be admitted into the church. But they, remembering the violence with which he had always opposed the true faith, had some distrust of him; and before they would admit him, insisted on some proofs of his sincerity. In compliance with this demand, he wrote against the Gentiles; wherein he has refuted the absurdities of their religion, and ridiculed their false gods. In this treatise he has employed all the flowers of rhetoric, and displayed great learning: but from an impatience to be admitted into the body of the faithful, he is thought to have been in too great a hurry in composing his work, and thence it is that there does not appear in this piece such an exact order and disposition as could be wished; and not having a perfect and exact knowledge of the Christian faith, he published some very dangerous errors. Mr Bayle remarks, that his notions about the origin of the soul, and the cause of natural evil, and several other important points, are highly pernicious. St Jerome, in his epistle to Paulinus, is of opinion that his style is unequal and too diffuse, and that his book is written without any method; but Dr Cave thinks this judgement too severe, and that Arnobius wants neither elegance nor order in his composition. Vossius styles him *the Varro of the ecclesiastical writers*. Du Pin observes that his work is written in a manner worthy of a professor of rhetoric: the turn of his sentiments is very oratorical; but his style is a little African, his expressions being harsh and inelegant. We have several editions of this work of Arnobius against the Gentiles, one published at Rome in 1542, at Basil in 1546 and 1560, at Paris in 1570, at Antwerp in 1582, and one at Hamburg in 1610, with notes by Gebhard Elmenhousius, besides many others. He wrote also a piece entitled *De Rhetoricæ Institutione*; but this is not extant.

ARNOLD, of Brescia, in Italy, distinguished himself by being the founder of a sect which opposed the wealth and power of the Romish clergy. He went into France, where he studied under the celebrated Peter Abelard. Upon his return to Italy, he put on the habit of a monk, and opened his investives in the streets of Brescia. The people crowded round him. He told them he was sent to reform abuses, to pull down the proud and to exalt the humble. He then pointed his declamation against the bishops, against the clergy, against the monks, and finally against the Roman pontiff himself: to the laity only he was indulgent. Churchmen, said he, who hold benefices, bishops who have domains, and monks that have possessions, will all be damned. His hearers shouted approbation. These things, continued he, belong to the prince; he may give them to whom he pleases, but he must give them to the laity. It is on their tithes, and the voluntary contributions



Arnold. contributions of the people, that those sons of God must live: they must be frugal, continent, and mortified.

The church of Brescia was soon thrown into the greatest confusion, and the people, already prejudiced against their ministers, threatened to overturn their altars. The sacred writings he urged in support of his assertions, and from them he denounced the vengeance of heaven against the violators of the law. Indeed, nothing could be more glaringly offensive than the ostentatious parade of the bishops and great abbots, and the soft and licentious lives of the monks and clergy.

In 1139 was celebrated a grand council at Rome. Arnold was cited to appear before it. His accusers were the bishop of Brescia, and many others, whom he had ridiculed and insulted. Nor from his judges could he look for much indulgence. He was found guilty, and sentenced to perpetual silence. Upon this he left Italy, crossed the Alps, and found a refuge in Zurich.

Though Arnold had quitted Italy, yet had his opinions taken deep root, and Rome itself was infected by them. Irritated by the conduct of their master Innocent II. the Roman people assembled in the capitol. It was proposed that the power of the pontiff, which they called exorbitant, should be restrained: this was carried: then suddenly, inspired as it were by the genius of the place, they moved that the senate which for years had been abolished, should be restored. The proposition was received with the loudest acclamations. Innocent in vain opposed the bold design; there was a magic in it which spread irresistibly, and for a moment seemed to rouse the fallen spirit of the nation. The pope viewed with horror the reverse of fortune which threatened the tiara; to be shorn of his mighty power, and to become the mere shepherd of the Christian people, was a thought too afflicting: he fell sick and died.

Under his two immediate successors Celestin and Lucius, whose reigns were but of a few months, the Romans pursued their darling object. They waited on the latter, and, in an imperious tone, demanded the restitution of all the honours and civil rights which had been usurped from the people. The prince of the senate, said they, whom we have chosen, will best administer the important trust: the tithes and offerings of the faithful will sufficiently answer all the exigencies of your holiness: It was thus that our ancient bishops lived. Lucius survived this event but a few days. His successor was Eugenius III. the friend and disciple of the renowned Bernard. The night before his consecration the senators assembled, and it was agreed, that either he should solemnly confirm all their proceedings, or they would annul his election. This resolution was notified to him. He called together his friends; and it was their advice, that he should neither accede to the extravagant demand, nor expose himself, by a refusal, to the fury of the populace. He therefore silently withdrew from Rome, and retired to a neighbouring fortress. Here the ceremony of his consecration was performed.

Arnold, who in banishment had contemplated the effect of his admonitions on the minds of the Romans, and the success which seemed to follow their exertions,

was now informed that the pope had retired, and that the gates of the capital were open to receive him: it was likewise suggested to him, that his presence was more than ever necessary, to give energy to their resolves, form to their plans, and stability to their undertakings. Arnold took fire at the news; an unusual swell of enthusiasm filled his breast; and he fancied that, like Junius Brutus, he was called at once to give liberty to Rome. At his appearance a new stream of vigour animated the citizens; they called him their friend and deliverer. The Brescian walked amongst them; his deportment was humble, his countenance emaciated, his address affable, and he spoke to them of moderation, of submission, of obedience. With the nobles and new senators he held another language; though to them also he was mild and diffident, speaking much of virtue and of respect for religion and the laws. But no sooner was he sensible of his own real influence, and saw the lengths to which the revolvers had already carried their designs, than he threw aside the mask, and appeared in his own character, daring, impetuous, self-sufficient, vain. He harangued the people; he talked of their forefathers the ancient Romans, who, by the wisdom of their senate and the valour of their armies, had conquered nations and subdued the earth. He dwelt on the names and the achievements of the Bruti, the Gracchi, and the Scipios; and of these men, said he, are you not the children? He advised, that the capitol be instantly repaired; that the equestrian order be restored; that the people have their tribunes; that dignity attend the senate; that the laws, which had been silent and neglected, be revived in all their vigour. He spoke of the pope as of a deposed and banished tyrant: "But should you again be disposed (continued he) to admit him within these walls; first fix your own rights and determine his. He is but your bishop: let him therefore have his spiritual jurisdiction. The government of Rome, its civil establishments, and its territories, belong to you. These you will keep if you have the spirit of men and the hearts of Romans." Fired by this harangue, the people, headed by the most disaffected of the nobles, publicly attacked the few cardinals and churchmen who remained in the city; they set fire to the palaces; and they compelled the citizens to swear obedience to the new government. Moderate men, who saw the folly of the attempt, were shocked at these excesses of popular phrenzy; but it was in vain to oppose the torrent: they submitted, looking forward with some curiosity to the termination of an event which had begun in extravagance, and must end in dis-appointment.

Eugenius till now had viewed, with some concern, the wild derangement of his people: but when it seemed that their eyes opened to their own excesses, he could be inactive no longer. He excommunicated the ringleaders of the faction; and at the head of his troops, who were chiefly composed of Tiburtini, a people always hostile to the Romans, he marched against the enemy. His friends within the walls, who were numerous, co-operated with his designs, and in a few days overtures for peace were made to the pontiff. He acceded to them, but on condition that they should annul the arrangements they had made, and if they would have senators, that they should acknowledge

Arnold.



Arnold  
||  
Arnoldus.

all their power was from him. The people were satisfied, and they threw open the gates, through which Eugenius entered, amid the acclamations of a fawning and inconstant multitude. Before this event Arnold had retired; but he left behind him many friends strongly attached to his person and principles. Of himself we hear little more till the reign of Adrian our countryman; when, on account of fresh tumults, he and his adherents were excommunicated, and Rome was threatened with an interdict unless they expelled the whole party from their walls. This they did. The Arnoldists retired with their champion into Tuscany, where he was received as a prophet and honoured as a saint. His enemies, however, prevailed; he was made prisoner, and conducted under a strong escort to Rome. In vain was great interest made to save his life; he was condemned and executed, and his ashes thrown into the Tiber, lest the people should collect his remains and venerate them as the relics of a faint-ed martyr.

\* *Hist. of the Lives of Abelard and Heloise.*  
“Such was Arnold of Brescia; a man (says Mr Berington\*), whose character, whose principles, and whose views, we perhaps should be disposed to admire, had his life been recorded by unprejudiced historians, and not brought down to us drawn in the blackest colours which party, bigotted zeal, and enthusiasm, could lay on. He was rash, misjudging, and intemperate, or never would he have engaged in so unequal a contest. The view of such a phenomenon in the 12th century excites a pleasing admiration. To attack the Roman pontiff and his clergy in the very centre of their power, required a more than common share of fortitude: to adopt a settled scheme of restoring to its pristine glory the republic of Rome, demanded a stretch of thought comprehensive and enterprising; and to forego the ease and indulgence of a dissipated age, for the reformation of manners and the suppression of what he thought usurped dominion, argued a character of mind disinterested, generous, and benevolent. But Arnold, like other reformers, went too far; and passion soon vitiated undertakings which were begun perhaps with motives the most laudable.—The readiness with which the Roman people embraced this plan of lowering the jurisdiction of the pontiff, and restraining it within those bounds which the true spirit of Christianity had fixed, at once shows that they could reason justly, and that they considered the unbounded sway of the triple crown, to which reluctantly they submitted, as an assumed prerogative, to which violence or misconstruction, and not Christian right, had given efficacy.”

ARNOLDISTS, in *Church History*, a sect so called from their leader Arnold of Brescia. See the preceding article.

ARNOLDUS, GOTHOFREDUS, pastor and inspector of the churches of Perleberg, and historiographer to the king of Prussia, was born at Annaburg in the mountains of Misnia in 1666. He was a zealous defender of the Pietists, a sect among the German Protestants, and composed a great number of religious works; particularly an *Ecclesiastical History*, which exposed him to the resentment of the divines; and another giving an account of the doctrines and manners from the first ages, in which he frequently animadverts upon Cave's Primitive Christianity. He died in 1714. Various are

the opinions concerning Arnoldus in Germany; some of his own countrymen and profession extolling him to the skies as a saint of the last century, and setting an inestimable value upon his works; while others pronounce damnation upon him as an arch-heretic, and condemn his writings as heterodox.

ARNON, in *Ancient Geography*, a brook running between the borders of the Moabites and Ammonites on the other side Jordan (Moses, Joshua): Josephus calls it a river rising on the borders of Arabia, and at length falling into the Dead sea. It is also called the river of Gad, as appears 2 Sam. xxv. 5. compared with 2 Kings x. 33.

ARNOT. See BUNIAM, BOTANY *Index*.

ARNOTTO, the same with Anotta. See ANOTTA and BIXA, BOTANY *Index*.

ARNSTADE, a town of Germany, in Thuringia, on the river Gera. E. Long. 11. 3. N. Lat. 50. 54.

ARNULPH, or ERNULPH, bishop of Rochester in the reign of Henry I. He was born in France, where he was some time a monk of St Lucian de Beauvais. The monks led most irregular lives in this monastery; for which reason he resolved to quit it, but first took the advice of Lanfranc archbishop of Canterbury, under whom he had studied in the abbey of Bec, when Lanfranc was prior of that monastery. This prelate invited him over to England, and placed him in the monastery of Canterbury, where he lived a private monk till Lanfranc's death. When Anselm came to the archiepiscopal see, Arnulph was made prior of the monastery of Canterbury, and afterwards abbot of Peterborough. In 1115, he was consecrated bishop of Rochester, which see he held nine years, and died in March 1124, aged 84.

Arnulph wrote, 1. A piece in Latin concerning the foundation, endowment, charters, laws, and other things relating to the church of Rochester: it is generally known by the title of *Textus Roffensis*, and is preserved in the archives of the cathedral church of Rochester. 2. An Epistle in Answer to some Questions of Lambert abbot of Munster; and, 3. An Epistle on incestuous Marriage.

ARNUS, now *Arno*, a very rapid river of Tuscany, which it divides, and in its course washes Florence and Pisa; rising in the Apennines, to the east of Florence, near a village called *S. Maria della Gratie*, on the borders of Romagna, 15 miles to the west of the sources of the Tiber; and then turning southwards towards Arretium, it is there increased by the lakes of the Clanis; after which it runs westward, dividing Florence into two parts, and at length washing Pisa, falls eight miles below it into the Tuscan sea.

ARNWAY, JOHN, a clergyman distinguished by his benevolence and loyalty to King Charles I. was descended from a very good family in the country of Salop, from which he inherited a considerable estate. He was educated at Oxford; and, having received holy orders, obtained the rectories of Hodnet and Ightfield, where he distinguished himself by his piety and exemplary charity: for it was his custom to clothe annually 12 poor people, and every Sunday to entertain as many at his table, not only plentifully, but with intimacy and respect. The civil war breaking out, he preached against rebellion, and raised and clothed eight troopers for the service of King Charles I. upon which his house was

Arnon  
||  
Arnway.



*Arobe*  
||  
*Arpagius.*

was plundered by the parliament's army. He then went to Oxford to serve the king in person, which subjected him to a new train of misfortunes: for his estate was soon after sequestered, and himself imprisoned till the king's death; after which he went to the Hague, where he published, 1. The Tablet, or the Moderation of Charles I. the Martyr; and, 2. An Alarm to the Subjects of England. He at last went to Virginia, where he died in 1653.

AROBÉ. See ARROBAS.

AROLEO, an American weight, equal to 25 of our pounds.

AROMA PHILOSOPHORUM, denotes either saffron, or the arope of Paracelsus; as *aroma germanicum*, denotes elecampane. See AROPE.

AROMATA, in *Ancient Geography*, a town of Lydia, famous for its generous wines; and hence the appellation, (Strabo.) Also the name of a trading town, and promontory of Ethiopia, at the termination of the Sinus Avalites of the Red sea, (Arrian).

AROMATIC, an appellation given to such plants as yield a brisk fragrant smell, and a warm taste; as all kinds of spices, &c. See MATERIA MEDICA.

ARONA, a town of Italy, in the duchy of Milan, with a strong castle. It stands on the lake Maggiore. E. Long. 8. 25. N. Lat. 45. 41.

ARONCHES, a town of Portugal, in Alentejo, on the confines of Spain, seated on the river Caro. It is well fortified, and has about 500 inhabitants. W. Long. 5. 16. N. Lat. 14. 39.

AROO, a town of the empire of Russia, in the Ukraïn, seated on the river Occa. E. Long. 38. 15. N. Lat. 51. 48.

AROPH, a contraction of *aroma philosophorum*; a name given to saffron.

*AROPH Paracelsi*, a name given to a kind of chemical flowers, probably of the same nature with the *Ens Veneris*, elegantly prepared by sublimation from equal quantities of lapis hæmatitis and sal ammoniac.

AROPH is also a term used frequently by Paracelsus in a sense synonymous with *litbonriptic*.

AROSBAY, a town of the East Indies, on the coast of the island of Madura, near Java. E. Long. 14. 30. N. Lat. 9. 30.

AROURA, a Grecian measure of 50 feet. It was more frequently used for a square measure of half the plethron. The Egyptian aroura was the square of 100 feet.

ARPAD, in *Ancient Geography*, is thought to have been a city of Syria. It was always placed with Hamath, (2 Kings xviii. 34. xix. 13. Isaiah x. 9. xxxvi. 19. xxxvii. 13. Jerem. xlix. 23.) Sennacherib boasts of having reduced Arpad and Hamath, or of having destroyed the gods of these two places. Hamath is known to be the same with Emesa; and it is thought that Arpad is the same with Arad or Arvad, as it is sometimes called in Hebrew. See ARAD.

ARPAGIUS, or HARPAGIUS, among the ancients, a person who died in the cradle, at least in early youth. The word is formed from the Greek *αρπαζω*, I snatch. The Romans made no funerals for their *arpagii*. They neither burnt their bodies, nor made tombs, monuments, or epitaphs for them; which occasioned Juvenal to say,

Vol II. Part II.

—Terra clauditur infans  
Et minor igne rogi.

Arpent  
||  
Arragon.

In after times it became the custom to burn such as had lived to the age of 40 days, and had cut any teeth; and these they called *Αρπακτοι*, or *Αρπαγμενοι*, q. d. *rapti, ravished*. The usage seems to have been borrowed from the Greeks; among whom, Eufathius assures us, it was the custom never to bury their children either by night or full day, but at the first appearance of the morning; and that they did not call their departure by the name of *death*, but by a softer appellation, *Ημερας αρπαγη*, importing that they were ravished by Aurora, or taken away to her embraces.

ARPENT, signifies an acre or furlong of ground; and according to the old French account in Doomday-book, 100 perches make an arpent. The most ordinary acre, called *l'arpent de France*, is 100 perches square: but some account it but half an acre.

ARPHAXAD, the son of Shem and father of Salah. Arphaxad was born in the year of the world 1658, a year after the deluge, and died in the year of the world 2096, at the age of 438 years, (Gen. xi. 12, &c.)

ARPI. See ARGOS Hippium.

ARPINAS, or ARPINO, JOSEPH CÆSAR, a famous painter, born in the year 1560, at the castle of Arpinas, in the kingdom of Naples. He lived in great intimacy with Pope Clement VIII. who conferred upon him the honour of knighthood, and bestowed on him many other marks of his friendship. In the year 1600, he went to Paris with Cardinal Aldobrandin, who was sent legate to the French court on the marriage of Henry IV. with Mary of Medicis. His Christian majesty gave Arpinas many considerable presents, and created him a knight of St Michael. The colouring of this painter is thought to be cold and inanimate; yet there is spirit in his designs, and his compositions have somewhat of fire and elevation. The touches of his pencil being free and bold, give therefore pleasure to connoisseurs in painting; but they are generally incorrect. What he painted of the Roman history is the most esteemed of all his works. The following pieces of this master were in the late royal collection of France, viz. the Nativity of our Saviour, Diana and Acteon, the Rape of Europa, and a Susanna. He died at Rome in 1640.

ARPINUM, a town of the Volsci, a little to the east of the confluence of the rivers Liris and Fibrenus, in the Terra di Lavoro; now decayed, and called *Arpino*. It was the native place of Cicero, and of Caius Marius, (Sallust.)

ARQUA, a town of Italy, in the Paduan, and territory of Venice, remarkable for the tomb of Petrarch. E. Long. 11. 43. N. Lat. 45. 43.

ARQUEBUS. See HARQUEBUS.

ARQUES, a town of Normandy, now the department of the Lower Seine, in France, seated on a small river of the same name. E. Long. 1. 30. N. Lat. 49. 54.

ARRACHEE, in *Heraldry*, a term applied to the representations of plants torn up by the roots.

ARRACK. See ARACK.

ARRAGON, a province of Spain, bounded on the north by the Pyrenean mountains, which separate it from



Arragon. from France; on the west by Navarre and the two Castiles; on the south, by Valencia; and on the east, by Catalonia. It is in length about 180 miles, and in breadth 149; but the land is mountainous, dry, sandy or stony, badly cultivated, and worse peopled. However it does not want rivers; for besides the Ebro, which crosses it in the middle, there are the Xalo, the Cinea, the Galego, and the Arragon. The air is pure and wholesome; and there are mines of iron, and some say of gold. The most fertile parts are about the rivers: for there the land produces corn, wine, oil, flax, hemp, various fruits, and a small quantity of saffron, besides large flocks of sheep, and plenty of game in the woods.

The Arragonefe have the character of being bold, courageous, and well bred; but positive in their opinions, and bigotted in their religion. These were the first of the Spaniards that threw off the Moorish yoke. Saragossa is the capital of this province; and the other chief towns are Balbastro, Jaca, Sarazona, Haefca, Calatajud, Albarrazin, Trevel, Daroca, and Boria.

**ARRAIGNMENT**, in *Law*, the arraignment or setting a thing in order, as a person is said to arraign a writ of novel disseisin, who prepares and fits it for trial.

**ARRAIGNMENT** is most properly used to call a person to answer in form of law upon an indictment, &c.

When brought to the bar, the criminal is called upon by name to hold up his hand; which though it may seem a trifling circumstance, yet is of this importance, that by the holding up of his hand *constat de persona*, and he owns himself to be of that name by which he is called. However it is not an indispensable ceremony; for being calculated merely for the purpose of identifying the person, any other acknowledgement will answer the purpose as well: therefore, if the prisoner obstinately and contemptuously refuses to hold up his hand, but confesses he is the person named, it is fully sufficient.

Then the indictment is to be read to him distinctly in the English tongue (which was law, even while all other proceedings were in Latin), that he may fully understand his charge. After which it is to be demanded of him, whether he be guilty of the crime whereof he stands indicted, or not guilty?

When a criminal is arraigned he either stands mute, or confesses the fact, or else he pleads to the indictment.

1. If he says nothing, the court ought *ex officio* to impanel a jury to inquire whether he stands obstinately mute, or whether he be dumb *ex visitatione Dei*. If the latter appears to be the case, the judges of the court (who are to be of counsel for the prisoner, and to see that he hath law and justice) shall proceed to the trial, and examine all points as if he had pleaded not guilty. But whether judgment of death can be given against such a prisoner, who hath never pleaded, and can say nothing in arrest of judgment, is a point yet undetermined.

If he be found to be obstinately mute (which a prisoner hath been held to be that hath cut his own tongue), then, if it be on an indictment of high treason, it hath long been clearly settled, that standing mute is equivalent to a conviction, and he shall receive the same judgment and execution.

The English judgment of penance for standing mute was as follows: That the prisoner be remanded to the prison from whence he came, and put into a low dark chamber; and there be laid on his back, on the bare floor, naked, unless where decency forbids; that there be placed upon his body as great a weight of iron as he could bear, and more; that he have no sustenance, save only, on the first day, three morsels of the worst bread; and, on the second day, three draughts of standing water that should be nearest to the prison door; and in this situation this should be alternately his daily diet, *till he died*, or, as anciently the judgment ran, *till he answered*.

It hath been doubted whether this punishment subsisted at the common law, or was introduced in consequence of the statute Westm. I. 3 Edw. I. c. 12. which seems to be the better opinion. For not a word of it is mentioned in Glanvil or Bracton, or in any ancient author, case, or record (that hath yet been produced), previous to the reign of Edward I.: but there are instances on record in the reign of Henry III. where persons accused of felony, and standing mute, were tried in a particular manner, by two successive juries, and convicted; and it is asserted by the judges in 8 Henry IV. that, by the common law before the statute, standing mute on an appeal amounted to a conviction of the felony. This statute of Edward I. directs such persons, "as will not put themselves upon inquests of felonies before the judges at the suit of the king, to be put into hard and strong prison (*Soient mys en la prisonne fort et dure*) as those which refuse to be at the common law of the land." And, immediately after this statute, the form of the judgment appears in Fleta and Britton to have been only a very strait confinement in prison, with hardly any degree of sustenance; but no weight is directed to be laid upon the body, so as to hasten the death of the miserable sufferer: and indeed any surcharge of punishment on persons adjudged to penance, so as to shorten their lives, is reckoned by Horne in the Mirror as a species of criminal homicide. It also clearly appears, by a record of 31 Edw. III. that the prisoner might then possibly subsist for 40 days under this lingering punishment. It is therefore imagined that the practice of loading him with weights, or, as it is usually called, *pressing him to death*, was gradually introduced between 31 Edward III. and 8 Henry IV. at which last period it first appears upon the books; being intended as a species of mercy to the delinquent, by delivering him the sooner from his torment: and hence it is also probable, that the duration of the penance was then first altered; and instead of continuing *till he answered*, it was directed to continue *till he died*, which must very soon happen under an enormous pressure.

The uncertainty of its original, the doubts that were conceived of its legality, and the repugnance of its theory (for it rarely was carried into practice) to the humanity of the laws of England, all concurred to require a legislative abolition of this cruel process, and a restitution of the ancient common law; whereby the standing mute in felony, as well as in treason and in trespass, amounted to a confession of the charge.

2. If the prisoner made a simple and plain confession, the court hath nothing to do but to award judgment: but it is usually very backward in receiving and recording



Arran. cording such confession, out of tenderness to the life of the subject; and will generally advise the prisoner to retract it, and,

3. Plead to the indictment; as to which, see the article *PLEA of Indictment*.

ARRAN, an island of Scotland, in the frith of Clyde, between Kintyre and Cunningham. Of this island the best description we have is that given by Mr Pennant in his *Tour through Scotland*, vol. ii. 172—184.

“Arran, or properly *Arr-inn*, or, ‘the island of mountains,’ seems not to have been noticed by the ancients, notwithstanding it must have been known to the Romans, whose navy, from the time of Agricola, had its station in the *Glottæ Æstuarium*, or the Frith of Clyde. Camden, indeed, makes this island the *Glotta of Antonine*, but no such name occurs in his *Itinerary*: it therefore was bestowed on Arran by some of his commentators. By the immense cairns, the vast monumental stones, and many relics of Druidism, this island must have been considerable in very ancient times. Here are still traditions of the hero Fingal, or Fin Mac Coul, who is supposed here to have enjoyed the pleasures of the chase; and many places retain his name: but I can discover nothing but oral history that relates to the island till the time of Magnus the Barefooted, the Norwegian victor, who probably included Arran in his conquests of Kintyre. If he did not conquer that island, it was certainly included among those that Donald Bane was to cede; for it appears that Acho, one of the successors of Magnus, in 1263, laid claim to Arran, Bute, and the Cumrays, in consequence of that promise: the two first he subdued, but the defeat he met with at Largs soon obliged him to give up his conquests. Arran was the property of the crown. Robert Bruce retired thither during his distresses, and met with protection from his faithful vassals. Numbers of them followed his fortunes; and after the battle of Bannockburn he rewarded several, such as the Maccocks, Mackinnons, Macbrides, and Maclouis, or Fullertons, with different charters of lands in their native country. All these are now absorbed by this great family, except the Fullertons, and a Stewart, descended from a son of Robert III. who gave him a settlement here. In the time of the Dean of the Isles, his descendant possessed Castle Douan; and *he and his bluid*, says the Dean, *are the best men in that country*. About the year 1334, this island appears to have formed part of the estate of Robert Stewart, great steward of Scotland, afterwards Robert II. At that time they took arms to support the cause of their master; who afterwards, in reward, not only granted at their request an immunity from their annual tribute of corn, but added several new privileges, and a donative to all the inhabitants that were present. In 1456, the whole island was ravaged by Donald earl of Ross and lord of the Isles. At that period, it was still the property of James II.; but in the reign of his successor James III. when that monarch matched his sister to Thomas lord Boyd, he created him earl of Arran, and gave him the island as a portion. Soon after, on the disgrace of that family, he caused the countess to be divorced from her unfortunate husband; and bestowed both the lady and island on Sir James Hamilton, in whose family it continues to this time, a very few farms excepted.

Arran. “Arran is of great extent, being 23 miles from Sgreadan Point north to Beinnean south; and the number of inhabitants are about 7000, who chiefly inhabit the coasts; the far greater part of the country being uninhabited by reason of the vast and barren mountains. Here are only two parishes, Kilbride and Kilmore; with a sort of chapel of ease to each, founded in the last century, in the golden age of this island, when it was blessed with Anne duchess of Hamilton, whose amiable disposition and humane attention to the welfare of Arran render at this distant time her memory dear to every inhabitant. The principal mountains of Arran are, Goatfield, or Gaoilbheinn, or “the mountain of the winds,” of a height equal to most of the Scottish Alps, composed of immense piles of moorstone, in form of wool packs, clothed only with lichens and mosses, inhabited by eagles and ptarmigans; Beinharrain, or “the sharp-pointed;” Ceum-na-caillich, “the step of the carline or old hag;” and Grianan-Athol, that yields to none in ruggedness. The lakes are, Loch-jorfa, where salmon come to spawn; Loch-tana; Loch-nah-jura, on the top of a high hill; Loch-mhachrai; and Loch-knoc-a-charbeil, full of large eels. The chief rivers are, Abhan-mhor, Moira-mhor, Slon-drai-machrei, and Jorfa; the two last remarkable for the abundance of salmon.

“The quadrupeds are very few; only otters, wild cats, shrew mice, rabbits, and bats: the stags, which used to abound, are now reduced to about a dozen. The birds are, eagles, hooded crows, wild pigeons, staves, black game, grouse, ptarmigans, daws, green plovers, and curlews. It may be remarked, that the partridge at present inhabits this island, a proof of the advancement of agriculture.

“The climate is very severe: for besides the violence of wind, the cold is very rigorous; and snow lay here in the valleys for 13 weeks of the last winter. In summer, the air is remarkably salubrious; and many invalids resort here on that account, and to drink the whey of goats milk.

“The principal disease here is the pleurisy: smallpox, measles, and chincough, visit the island once in seven or eight years. The practice of bleeding twice every year seems to have been intended as a preventive against the pleurisy: but it is now performed with the utmost regularity at spring and fall. The duke of Hamilton keeps a surgeon in pay; who at those seasons makes a tour of the island. On notice of his approach, the inhabitants of each farm assemble in the open air; extend their arms; and are bled into a hole made in the ground, the common receptacle of the vital fluid. In burning fevers, a tea of *wood sorrel* is used with success, to allay the heat. An infusion of *ramsons*, or *allium ursinum*, in brandy, is esteemed here a good remedy for the gravel.

“The men are strong, tall, and well made; all speak the Erse language, but the ancient habit is entirely laid aside. Their diet is chiefly potatoes and meal; and during winter, some dried mutton or goat is added to their hard fare. A deep dejection appears in general through the countenances of all: no time can be spared for amusement of any kind; the whole being given for procuring the means of paying their rent, of laying in their fuel, or getting a scanty pittance of meat and clothing.



Arran.

"The leases of farms are 19 years. The succeeding tenants generally find the ground little better than a *caput mortuum*: and for this reason: Should they at the expiration of the lease leave the lands in a good state, some avaricious neighbours would have the preference in the next setting, by offering a price more than the person who had expended part of his substance in enriching the farm could possibly do. This induces them to leave it in the original state. The method of setting a farm is very singular; each is commonly possessed by a number of small tenants; thus a farm of 40l. a year is occupied by 18 different people, who by their leases are bound, conjunctly and severally, for the payment of the rent to the proprietor. These live in the farm in houses clustered together, so that each farm appears like a little village. The tenants annually divide the arable land by lot; each has his ridge of land, to which he puts his mark, such as he would do to any writing; and this species of farm is called *run-rig*, (i. e.) ridge. They join in ploughing; every one keeps a horse or more; and the number of those animals consumes so much corn, as often to occasion a scarcity; the corn and peas raised being (much of it) designed for their subsistence, and that of the cattle, during the long winter. The pasture and moor land annexed to the farm is common to all the possessors. All the farms are open. Enclosures of any form, except in two or three places, are quite unknown: so that there must be a great loss of time in preserving their corn, &c. from trespass. The usual manure is sea plants, coral and shells. The run-rig farms are now discouraged: but since the tenements are set by roup or auction, and advanced by an unnatural force to above double the old rent, without any allowance for enclosing, any example set in agriculture, any security of tenure by lengthening the leases, affairs will turn retrograde, and the farms relapse into their old state of rudeness; migration will increase (for it has begun), and the rents be reduced even below their former value: the late rents were scarce 1200l. a-year; the expected rents 3000l.

"The produce of the island is oats; of which about 5000 bolls, each equal to nine Winchester bushels, are sown, 500 of beans, a few peas; and above 1000 bolls of potatoes are annually set: notwithstanding this, 500 bolls of oat meal are annually imported, to subsist the natives.

"The live stock of the island is 3183 milch cows; 2000 cattle, from one to three years old; 1058 horses; 1500 sheep; and 500 goats: many of the two last are killed at Michaelmas and dried for winter-provision, or sold at Greenock. The cattle are sold from 40 to 50s. per head, which brings into the island about 1200l. *per annum*: I think that the sale of horses also brings in about 300l. Hogs were introduced here only two years ago. The herring-fishery round the island brings in 300l. the sale of herring-nets 100l. and that of thread about 300l. for a good deal of flax is sown here. These are the exports of the island; but the money that goes out for mere necessaries is a melancholy drawback.

"The women manufacture the wool for the clothing of their families; they set the potatoes, and dress and spin the flax. They make butter for exportation, and cheese for their own use.

"The inhabitants in general are sober, religious, and industrious; great part of the summer is employed in getting peat for fuel, the only kind in use here; or in building or repairing their houses, for the badness of the materials requires annual repairs: before and after harvest, they are busied in the herring fishery; and during winter the men make their herring nets; while the women are employed in spinning their linen and woollen yarn. The light they often use is that of lamps. From the beginning of February to the end of May, if the weather permits, they are engaged in labouring their ground: in autumn they burn a great quantity of fern, to make kelp. So that, excepting at new-year's day, at marriages, or at the two or three fairs in that island, they have no leisure for any amusements: no wonder then at their depression of spirits.

"Arran forms part of the county of Bute, and is subject to the same sort of government: but, besides, justice is administered at the baron's bailie-court, who has power to fine as high as 20s.; can decide in matters of property not exceeding 40s.; can imprison for a month? and put delinquents into the stocks for three hours, but that only during day-time."

In this island there are many of those rude antiquities or monuments called *cairns*, *druidical circles*, &c. See CAIRNS.

ARRANGEMENT, or RANGEMENT, the disposition of the parts of a whole, in a certain order.

The modern philosophy shows us, that the diversity of the colours of bodies depends entirely on the situation and arrangement of the parts, which reflect the light differently; the diversity of tastes and smells on the different arrangements of the pores, which render them differently sensible; and the general diversity of bodies on the different arrangement of their parts. The happy arrangement of words makes one of the greatest beauties of discourse.

ARRAS, the capital city of Artois, a province in the French Netherlands. It is seated on a mountain; and the parts about it are full of quarries, where they get stone for building. It is divided into two parts, the town and the city. The abbé of St Vedast is lord of the town, and the bishop of Arras of the city, which is the least part. They are divided by a strong wall, a large fosse, and the little river Chrinchron, which 100 paces below falls into the Scarp. They are both well fortified, enclosed by high ramparts, and by double deep fosses, which in several places are cut out of the rock. It has four gates; and since the French are become masters of it, has a strong citadel with five bastions. The most remarkable places are, the great square where the principal market is kept; this is full of fine buildings, with piazzas all round it like those of Covent-garden. Not far from this is the lesser market, which contains the town-house, a very noble structure, with a high tower covered with a crown, on the top of which is a brazen lion which serves for a vane. In the midst of this market is the chapel of the Holy Candle, which the Papists pretend was brought by the Virgin Mary herself above 600 years ago, when the city was afflicted with divers diseases, and every one that touched the candle was cured; it is kept in a silver shrine. This chapel has a spire steeple, adorned with several statues. The cathedral church of Notre-Dame stands in the city: it is a very large Gothic building, extremely

Arrangement,  
Arras.



Arras  
||  
Arrest.

extremely well adorned; the tower is very high, and has a fine clock embellished with little figures in bronze, which represent the passion of Jesus Christ; they pass before the bell to strike the hours and half hours. In this church there is a silver shrine, enriched with pearls and diamonds, which contains a sort of wool, which they call *manna*, that they say fell from heaven in the time of a great drought, almost 1400 years ago: they carry it very solemnly in procession when they want rain. The abbey-church of St Vedast is the greatest ornament of Arras, it being adorned with a fine steeple, and seats for the monks of admirable workmanship; the pulpit is of brass, fashioned like a tree, supported by two bears of the same metal, sitting on their hind legs; there are little bears in different postures coming to climb up the tree. The chimes are remarkable for the different tunes which they play. There are 11 parish churches, and a great many convents of men and women. It is from this city that the tapestry called *arras hangings* takes its denomination. E. Long. 2. 56. N. Lat. 50. 17.

ARRAS, or *Araxes*, is also the name of a river of Georgia, which discharges itself into the Caspian sea.

ARRAY, in *Law*, the ranking or setting forth of a jury, or inequest of men impanelled on a cause.

*Battle-ARRAY*, the order or disposition of an army, drawn up with a view to engage the enemy. See *ARMY*.

ARRAYERS, or ARRAGERS, ARRAITORES, is used in some ancient statutes, for such officers as had care of the soldiers armour, and saw them duly accoutred in their kinds. In some reigns, commissioners have been appointed for this purpose. Such were the commissioners of array appointed by King Charles I. in the year 1642.

ARREARS, the remainder of a sum due, or money remaining in the hands of an accountant. It likewise signifies the money due for rent, wages, &c. or what remains unpaid of pensions, taxes, &c.

ARRENTATION, in the forest laws, implies the licensing the owner of lands in a forest to enclose them with a low hedge and a small ditch, in consideration of a yearly rent.

ARREST, in *English Law* (from the French word *arrester*, to stop or stay), is the restraint of a man's person, obliging him to be obedient to the law; and is defined to be the execution of the command of some court of record or office of justice. An arrest is the beginning of imprisonment; where a man is first taken, and restrained of his liberty, by power or colour of a lawful warrant.

Arrests are either in *civil* or *criminal* cases.

1. An arrest in a *civil cause* is defined to be the apprehending or restraining one's person by process in execution of the command of some court.

An arrest must be by corporal seizing or touching the defender's body; after which the bailiff may justify breaking open the house in which he is, to take him: otherwise he has no such power; but must watch his opportunity to arrest him. For every man's house is looked upon by the law to be his castle of defence and asylum, wherein he should suffer no violence. Which principle is carried so far in the civil law, that, for the most part, not so much as a common citation or summons, much less an arrest, can be executed upon

a man within his own walls. Peers of the realm, members of parliament, and corporations, are privileged from arrests; and of course from outlawries. And against them the process to enforce an appearance must be by summons and distress *infinite*, instead of a *capias*. Also clerks, attorneys, and all other persons attending the courts of justice (for attorneys being officers of the court, are always supposed to be there attending) are not liable to be arrested by the ordinary process of the court, but must be sued by bill (called usually a *bill of privilege*), as being personally present in court. Clergymen performing divine service, and not merely staying in the church with a fraudulent design, are for the time privileged from arrests, by statute 50 Edw. III. c. 5. and 1 Rich. II. c. 16.; as likewise members of convocation actually attending thereon, by statute 8 Hen. VI. c. 1. Suitors, witnesses, and other persons, necessarily attending any courts of record upon business, are not to be arrested during their actual attendance, which includes the necessary coming and returning. Seamen in the king's service are privileged from arrests for debts under 20l. (1 Geo. II. c. 14. and 14 Geo. II. c. 38.); and soldiers or marines are not liable to arrests for a debt of less than 10l. (30 Geo. II. c. 6. 11.) And no arrest can be made in the king's presence, nor within the verge of his royal palace, nor in any place where the king's justices are actually sitting. The king hath moreover a special prerogative (which indeed is very seldom exerted), that he may by his *writ of protection* privilege a defendant from all personal, and many real suits, for one year at a time, and no longer; in respect of his being engaged in his service out of the realm. And the king also by the common law might take his creditor into his protection, so that no one might sue or arrest him till the king's debt was paid: but by the statute 25 Edw. III. c. 19. notwithstanding such protection, another creditor may proceed to judgment against him, with a stay of execution, till the king's debt be paid; unless such creditor will undertake for the king's debt, and then he shall have execution for both. And, lastly, By statute 29 Car. II. c. 7. no arrest can be made, nor process served, upon a Sunday, except for treason, felony, or breach of the peace.

2. An arrest in a *criminal cause* is the apprehending or restraining one's person, in order to be forthcoming to answer an alleged crime. To this arrest all persons whatsoever are, without distinction, equally liable; and doors may be broken open to arrest the offender: but no man is to be arrested, unless charged with such a crime as will at least justify holding him to bail when taken. There is this difference also between arrests in civil and criminal cases, that none shall be arrested for debt, trespass, or other cause of action, but by virtue of a precept or commandment out of some court; but for treason, felony, or breach of the peace, any man may arrest with or without warrant or precept. But the king cannot command any one by word of mouth to be arrested; for he must do it by writ, or order of his courts, according to law: nor may the king arrest any man for suspicion of treason, or felony, as his subjects may; because, if he doth wrong, the party cannot have an action against him.

Arrests by private persons are in some cases commanded. Persons present at the committing of a felony

Arrest.



Arrest  
||  
Arrhepho-  
ria.

lony must use their endeavours to apprehend the offender, under penalty of fine and imprisonment; and they are also, with the utmost diligence to pursue and endeavour to take all those who shall be guilty thereof out of their view, upon a hue and cry levied against them. By the vagrant act 17 Geo. II. c. 5. every person may apprehend beggars and vagrants; and every private person is bound to assist an officer requiring him to apprehend a felon.

In some cases likewise arrests by private persons are rewarded by law. By the 4 and 5 William and Mary, c. 8. persons apprehending highwaymen, and prosecuting them to a conviction are entitled to a reward of 40l.; and if they are killed in the attempt, their executors, &c. are entitled to the like reward. By the 6 and 7 William III. c. 17. persons apprehending counterfeiters and clippers of the coin, and prosecuting them to conviction are entitled to 40l.

By 5 Ann, c. 31. persons who shall take any one guilty of burglary, or the felonious breaking and entering any house in the day time, and prosecute them to conviction, shall receive the sum of 40l. within one month after such conviction.

With regard to arrests by public officers, as watchmen, constables, &c. they are either made by their own authority, which differs but very little from the power of a private person; or they are made by a warrant from a justice of peace. See WARRANT.

ARREST of Judgment, in Law, the assigning just reason why judgment should not pass: as, Want of notice of the trial; a material defect in the pleading; when the record differs from the deed impleaded; when persons are misnamed; where more is given by the verdict than is laid in the declaration, &c. This may be done either in criminal or civil cases.

ARRESTMENT, in Scots Law, signifies the securing of a criminal till trial, or till he find caution to stand trial, in what are called *bailable crimes*. In civil cases, it signifies either the detaining of strangers, or natives in *meditatione fugæ*, till they find caution *judicio sisti*, or the attaching the effects of a stranger in order to found jurisdiction. But, in the most general acceptation of the word, it denotes that diligence by which a creditor detains the goods or effects of his debtor in the hands of third parties till the debt due to him be either paid or secured. See LAW.

ARRESTO FACTO SUPER BONIS, &c. a writ brought by a denizen against the goods of aliens found within this kingdom, as a recompense for goods taken from him in a foreign country.

ARRESTS, in *Farriery*, mangy tumours upon a horse's hinder legs, between the ham and the pastern.

ARRETIIUM, (Cicero, Cæsar); *Arrhetium*, (Ptolemy); *Urbs Arrhetinorum*, (Polybius); one of the twelve ancient towns of Tuscany, near the Arnis and Clanis, situated in a pleasant valley. Now *Arezzo*, 42 miles east of Florence. E. Long. 13. 18. Lat. 43. 15.

ARRHABONARII, a sect of Christians, who held that the eucharist is neither the real flesh or blood of Christ, nor yet the sign of them; but only the pledge or earnest thereof.

ARRHEPHORIA, a feast among the Athenians, instituted in honour of Minerva, and Herse daughter

of Cecrops. The word is composed of *αρεσιον*, mystery, and *φερα*, I carry; on account of certain mysterious things which were carried in procession at this solemnity.—Boys, or, as some say, girls, between seven and twelve years of age, were the ministers that assisted at this feast, and were denominated *αρεσιφοροι*. This feast was also called *Hersephoria*, from the daughter of Cecrops, already mentioned.

ARRIAN, a famous philosopher and historian under the emperor Hadrian and the two Antonines, was born at Nicomedia in Bithynia. His great learning and eloquence procured him the title of *The second Xenophon*; and raised him to the most considerable dignities at Rome, even the consulship itself. We have four books of his *Dissertations upon Epictetus*, whose scholar he had been; and his *History of Alexander the Great*, in seven books, is greatly admired by the best judges.

ARRIERE, the hinder or posterior part of any thing.

ARRIERE Ban, in the *French Customs*, was a general proclamation, whereby the king summoned to war all that held of him, both his vassals, i. e. the noblesse, and the vassals of his vassals.

ARRIERE Fee, or *Fief*, is a fee dependent on a superior one. These fees commenced, when the dukes and counts, rendering their governments hereditary in their families, distributed to their officers parts of the royal domains which they found in their respective provinces, and even permitted those officers to gratify the soldiers under them in the same manner.

ARROBAS, or AROBAS, a weight used in Spain, Portugal, and the foreign dominions of both. The arrobas of Portugal is also called *arata*, and contains thirty-two Lisbon pounds; that of Spain contains twenty-five Spanish pounds. In Peru it is called *arroue*.

ARROE, a small island of Denmark, in the Baltic sea, a little south of the island of Funen. It is eight miles in length, and about two in breadth; and produces corn, aniseed, black cattle, and horses. It has three parishes, the most considerable of which is Koping. It stands at the south side of the island, in the bottom of a bay, and has a port with some trade. E. Long. 9. 40. N. Lat. 55. 20.

ARROJO, DE ST SERVAN, a town of Spain, in Estremadura. W. Long. 5. 20. N. Lat. 38. 40.

ARRONDEE, in *Heraldry*, a cross, the arms of which are composed of sections of a circle, not opposite to each other, so as to make the arms bulge out thicker in one part than another; but the sections of each arm lying the same way, so that the arm is every where of an equal thickness, and all of them terminating at the edge of the escutcheon like the plain cross.

ARROW, a missile weapon of offence, slender, pointed, and barbed, to be cast or shot with a bow. See ARCHERY.

ARROW-Makers, are called *fletchers*; and were formerly, as well as bowyers, persons of great consequence in the commonwealth.

Arrow-heads and quarrels were to be well boched or brased, and hardened at the points with steel; the doing of which seems to have been the business of the arrow-smith.

Arrian  
||  
Arrow-  
Makers.



Arrow-  
Head

Arfinoe.

*Arrow-Head.* See SAGITTARIA, BOTANY Index.*Arrow-Root.* See MARANTA, BOTANY Index.

ARSACES, otherwise MITHRIDATES, a king of the Parthians, spoken of in the first book of Macca-bees, xiv. 2. He considerably enlarged the kingdom of Parthia by his good conduct and valour. See PAR-THIA.

ARSCHIN, in *Commerce*, a long measure used in China to measure stuffs. Four arschins make three yards of London.

ARSENAL, a royal or public magazine, or place appointed for the making and keeping of arms, necessary either for defence or assault. Some derive this word from *arx* a *fortress*; others from *ars*, denoting a *machine*; others again from *arx* and *senatus*, because this was the defence of the senate: but the more probable opinion derives it from the Arabic *darfenaa*, which signifies *arsenal*.

The arsenal of Venice is the place where the galleys are built and laid up. The arsenal of Paris is that where the cannon or great guns are cast. It has this inscription over the gate:

*Ætna hæc Henrico vulcania tela ministrat,  
Tela Giganteos debellatura furores.*

There are arsenals, or store-houses, appropriated to naval furniture and equipments. At Marseilles is the arsenal for the galleys; and at Toulon, Rochfort, and Brest, are those for the men of war.

ARSENIC. See MINERALOGY and CHEMISTRY Index.

ARSENIUS, a deacon of the Roman church, of great learning and piety. He was pitched upon by the pope to go to the emperor Theodosius, as tutor to his son Arcadius. Arsenius arrived at Constantinople in the year 383. The emperor happening one day to go into the room where Arsenius was instructing Arcadius, his son was seated and the preceptor standing; at this he was exceedingly displeased, took from his son the imperial ornaments, made Arsenius sit in his place, and ordered Arcadius for the future to receive his lessons standing uncovered. Arcadius, however, profited but little by his tutor's instructions, for some time after he formed a design of despatching him. The officer to whom Arcadius had applied for this purpose, divulged the affair to Arsenius, who retired to the deserts of Scete, where he passed many years in the exercises of the most strict and fervent devotion. He died there, at 95 years of age.

ARSHOT, a town of the Austrian Netherlands, situated about 14 miles east of the city of Mechlin, in E. Long. 4. 45. N. Lat. 51. 5.

ARSINOË, in *Ancient Geography*, a town of Egypt, on the west side of the Arabian gulf, near its extremity, to the south of Hieropolis, (Strabo, Ptolemy); called *Cleopatris* by some. Another Arfinoe, a town of Cilicia, (Ptolemy); and the fifth of that name in Cilicia, (Stephanus); with a road or station for ships, (Strabo). A third Arfinoe, in the south of Cyprus, with a port between Citium and Salamis, (Strabo). A fourth, an inland town of Cyprus, called *Marium* formerly, (Stephanus). A fifth in the north of Cyprus, between Acamas and Soli, (Strabo); so called from Arfinoe, a queen of Egypt, Cyprus being in the hands of the Ptolemies. A sixth Arfinoe,

a maritime town of Cyrene, formerly called *Teuchira*. A seventh Arfinoe, in the Nomos Arfinoites, to the west of the Heracleotes, on the western bank of the Nile, formerly called *Crocodilorum Urbs*, (Strabo); the name *Arfinoe* continued under Adrian, (Coin.) Ptolemy calls this Arfinoe an inland metropolis, and therefore at some distance from the Nile, with a port called *Ptolemais*. An eighth Arfinoe, a maritime town of Lycia; so called by Ptolemy Philadelphus, after the name of his consort, which did not hold long, it afterwards recovering its ancient name *Patara*, (Strabo). A ninth, a town of the Troglodytæ, near the mouth of the Arabian gulf, which towards Ethiopia is terminated by a promontory called *Dire*, (Ptolemy). This Arfinoe is called *Berenice*, and the third of that name in this quarter, with the distinction *Epideres*; because situated on a neck of land running out a great way into the sea.

ARSIS and THESIS, in *Music*, is a term applied to compositions in which one part rises and the other falls.

ARSMART. See PERSICARIA, BOTANY Index.

ARSON, in *English Law*, is the malicious and wilful burning of the house or outhouse of another man; which is felony at common law.

This is an offence of very great malignity, and much more pernicious to the public than simple theft: because, first, it is an offence against that right of habitation which is acquired by the law of nature as well as by the laws of society; next, because of the terror and confusion that necessarily attends it; and, lastly, because in simple theft the thing stolen only changes its master, but still remains *in esse* for the benefit of the public; whereas by burning the very substance is absolutely destroyed. It is also frequently more destructive than murder itself, of which too it is often the cause: since murder, atrocious as it is, seldom extends beyond the felonious act designed, whereas fire too frequently involves in the common calamity persons unknown to the incendiary, and not intended to be hurt by him, and friends as well as enemies.

ARSURA, in ancient customs, a term used for the melting of gold or silver, either to refine them, or to examine their value.—The method of doing this is explained at large in the Black Book of the Exchequer, ascribed to Gervaise, in the chapter *De Officio Militis Argentarii*, being in those days of great use, on account of the various places and different manners in which the king's money was paid.

ARSURA, is also used for the loss or diminution of the metal in the trial. In this sense, a pound was said *tot ardere denarios*, to lose so many pennyweights.

ARSURA is also used for the dust and sweepings of silversmiths, and others, who work in silver, melted down.

ART is defined by Lord Bacon, a proper disposal of the things of nature by human thought and experience, so as to answer the several purposes of mankind; in which sense *art* stands opposed to *nature*.

Art is principally used for a system of rules serving to facilitate the performance of certain actions; in which sense it stands opposed to *science*, or a system of speculative principles.

Arts are commonly divided into *useful* or *mechanic*, *liberal* or *polite*. The former are those wherein the

Arfis

Art.

hand



Arts.

*hand* and *body* are more concerned than the mind; of which kind are most of those which furnish us with the *necessaries* of life, and are popularly known by the name of *trades*; as baking, brewing, carpentry, smithery, weaving, &c.—The latter are such as depend more on the labour of the mind than that of the hand; they are the produce of the *imagination*, their essence consists in *expression*, and their end is *pleasure*. Of this kind are poetry, painting, music, &c.

Origin and

*Progress of the ARTS.* Some useful arts must be nearly coeval with the human race; for food, clothing, and habitation, even in their original simplicity, require some art. Many other arts are of such antiquity as to place the inventors beyond the reach of tradition. Several have gradually crept into the world without an inventor. The busy mind, however, accustomed to a beginning in things, cannot rest till it finds or imagines a beginning to every art. The most probable conjectures of this nature the reader may see in the historical introductions to the different articles.

progress of  
useful arts.  
Kaimes's  
Sketches,  
Sk. v.

In all countries where the people are barbarous and illiterate, the progress of arts is extremely slow. It is vouched by an old French poem, that the virtues of the loadstone were known in France before anno 1180. The mariner's compass was exhibited at Venice anno 1260, by Paulus Venetus, as his own invention. John Goya of Amalphi was the first who, many years afterward, used it in navigation; and also passed for being the inventor. Though it was used in China for navigation long before it was known in Europe, yet to this day it is not so perfect as in Europe. Instead of suspending it in order to make it act freely, it is placed upon a bed of sand, by which every motion of the ship disturbs its operation. Hand-mills, termed *querns*, were early used for grinding corn; and when corn came to be raised in greater quantity, horse-mills succeeded. Water-mills for grinding corn are described by Vitruvius. Wind-mills were known in Greece, and in Arabia as early as the seventh century; and yet no mention is made of them in Italy till the fourteenth. That they were not known in England in the reign of Henry VIII. appears from a household book of an earl of Northumberland, cotemporary with that king, stating an allowance for three mill horses, "two to draw in the mill, and one to carry stuff to the mill and fro." Water-mills for corn must in England have been of a later date. The ancients had mirror-glasses, and employed glass to imitate crystal vases and goblets; yet they never thought of using it in windows. In the 13th century, the Venetians were the only people who had the art of making crystal glass for mirrors. A clock that strikes the hours was unknown in Europe till the end of the 12th century. And hence the custom of employing men to proclaim the hours during night; which to this day continues in Germany, Flanders, and England. Galileo was the first who conceived an idea that a pendulum might be useful for measuring time; and Huygens was the first who put the idea in execution, by making a pendulum clock. Hook, in the year 1660, invented a spiral spring for a watch, though a watch was far from being a new invention. Paper was made no earlier than the 14th century; and the invention of printing was a century later. Silk manufactures were long established in

Arts.

Greece before silk-worms were introduced there. The manufacturers were provided with raw silk from Persia: but that commerce being frequently interrupted by war, two monks, in the reign of Justinian, brought eggs of the silk-worm from Hindostan, and taught their countrymen the method of managing them.—The art of reading made a very slow progress. To encourage that art in England, the capital punishment for murder was remitted if the criminal could but read, which in law language is termed *benefit of clergy*. One would imagine that the arts must have made a very rapid progress when so greatly favoured: but there is a signal proof of the contrary: for so small an edition of the Bible as 600 copies, translated into English in the reign of Henry VIII. was not wholly sold off in three years. The people of England must have been profoundly ignorant in Queen Elizabeth's time, when a forged clause added to the 20th article of the English creed passed unnoticed till about 50 years ago.

The discoveries of the Portuguese in the west coast of Africa is a remarkable instance of the slow progress of arts. In the beginning of the 15th century, they were totally ignorant of that coast beyond Cape Non, 28 degrees north latitude. In 1410, the celebrated Prince Henry of Portugal fitted out a fleet for discoveries, which proceeded along the coast to Cape Bojadore in 26 deg. but had not courage to double it. In 1418, Tristan Vaz discovered the island Porto Santo; and the year after, the island Madeira was discovered. In 1439, a Portuguese captain doubled Cape Bajadore; and the next year the Portuguese reached Cape Blanco, lat. 20 deg. In 1446, Nuna Tristan doubled Cape de Verd, lat. 14. 40. In 1448, Don Gonzallo Vallo took possession of the Azores. In 1449, the islands of Cape de Verd were discovered for Don Henry. In 1471, Pedro d'Escovar discovered the island St Thomas and Prince's island. In 1484, Diego Cam discovered the kingdom of Congo. In 1486, Bartholomew Diaz, employed by John II. of Portugal, doubled the Cape of Good Hope, which he called *Cabo Tormentoso*, from the tempestuous weather he found in the passage.

The exertion of national spirit upon any particular art, promotes activity to prosecute other arts. The Romans, by constant study, came to excel in the art of war, which led them naturally to improve upon other arts. Having, in the progress of society, acquired some degree of taste and polish, a talent for writing broke forth. Nevius composed in verse seven books of the Punic war; besides comedies, replete with bitter raillery against the nobility. Ennius wrote annals, and an epic poem. Lucius Andronicus was the father of dramatic poetry in Rome. Pacuvius wrote tragedies. Plautus and Terence wrote comedies. Lucilius composed satires, which Cicero esteems to be slight and void of erudition. Fabius Pictor, Cincius Alimentus, Piso Frugi, Valerius Antias, and Cato, were rather annalists than historians, confining themselves to naked facts, ranged in order of time. The genius of the Romans for the fine arts was much inflamed by Greek learning, when free intercourse between the two nations was opened. Many of those who made the greatest figure in the Roman state commenced

Causes  
which advanced  
the progress of  
arts.



Arts.

menced authors; Cæsar, Cicero, &c. Sylla composed memoirs of his own transactions, a work much esteemed even in the days of Plutarch.

The progress of art seldom fails to be rapid, when a people happen to be roused out of a torpid state by some fortunate change of circumstances. Prosperity, contrasted with former abatement, gives to the mind a spring, which is vigorously exerted in every new pursuit. The Athenians made but a mean figure under the tyranny of Pisistratus; but upon regaining freedom and independence, they were converted into heroes. Miletus, a Greek city of Ionia, being destroyed by the king of Persia, and the inhabitants made slaves, the Athenians, deeply affected with the misery of their brethren, boldly attacked the king in his own dominions, and burnt the city of Sardis. In less than 10 years after, they gained a signal victory at Marathon; and, under Themistocles, made head against that prodigious army with which Xerxes threatened utter ruin to Greece. Such prosperity produced its usual effects: arts flourished with arms, and Athens became the chief theatre for sciences, as well as for fine arts. The reign of Augustus Cæsar, which put an end to the rancour of civil war, and restored peace to Rome, with the comforts of society, proved an auspicious era for literature; and produced a cloud of Latin historians, poets, and philosophers, to whom the moderns are indebted for their taste and talents. One who makes a figure rouses emulation in all: one catches fire from another, and the national spirit is everywhere triumphant: classical works are composed, and useful discoveries made in every art and science. With regard to Rome, it is true, that the Roman government under Augustus was in effect despotic: but despotism, in that single instance, made no obstruction to literature, it having been the policy of that reign to hide power as much as possible. A similar revolution happened in Tuscany about three centuries ago. That country having been divided into a number of small republics, the people excited by mutual hatred between small nations in close neighbourhood, became ferocious and bloody, flaming with revenge for the slightest offence. These republics being united under the great duke of Tuscany, enjoyed the sweets of peace in a mild government. That comfortable revolution, which made the deeper impression by a retrospect to recent calamities, roused the national spirit, and produced ardent application to arts and literature. The restoration of the royal family in England, which put an end to a cruel and envenomed civil war, promoted improvements of every kind; arts and industry made a rapid progress among the people, though left to themselves by a weak and fluctuating administration. Had the nation, upon that favourable turn of fortune, been blessed with a succession of able and virtuous princes, to what a height might not arts and sciences have been carried! In Scotland, a favourable period for improvement was the reign of the first Robert, after shaking off the English yoke; but the domineering spirit of the feudal system rendered every attempt abortive. The restoration of the royal family mentioned above, animated the legislature of Scotland to promote manufactures of various kinds: but in vain; for the union of the two crowns had introduced despotism into Scotland, which sunk the genius of the people, and rendered them heartless

and indolent. Liberty, indeed, and many other advantages, were procured to them by the union of the two kingdoms; but the salutary effects were long suspended by mutual enmity, such as commonly subsists between neighbouring nations. Enmity gradually wore out, and the eyes of the Scots were opened to the advantages of their present condition; the national spirit was roused to emulate and to excel: talents were exerted, hitherto latent; and Scotland at present makes a figure in arts and sciences above what it ever made while an independent kingdom.

Another cause of activity and animation, is the being engaged in some important action of doubtful event; a struggle for liberty, the resisting a potent invader, or the like. Greece, divided into small states frequently at war with each other, advanced literature and the fine arts to unrivalled perfection. The Corinthians, while engaged in a perilous war for defence of their liberties, exerted a vigorous national spirit; they founded a university for arts and sciences, a public library, and a public bank. After a long stupor during the dark ages of Christianity, arts and literature revived among the turbulent states of Italy. The Royal Society in London, and the Academy of Sciences in Paris, were both of them instituted after civil wars that had animated the people and roused their activity.

As the progress of arts and sciences toward perfection is greatly promoted by emulation, nothing is more fatal to an art or science than to remove that spur, as where some extraordinary genius appears who soars above rivalry. Mathematics seem to be declining in Britain; the great Newton, having surpassed all the ancients, has not left to the moderns even the faintest hope of equalling him; and what man will enter the lists who despairs of victory?

In a country thinly peopled, where even necessary arts want hands, it is common to see one person exercising more arts than one: in several parts of Scotland, one man serves as a physician, surgeon, and apothecary. In every populous country, even simple arts are split into parts, and each part has an artist appropriated to it. In the large towns of ancient Egypt, a physician was confined to a single disease. In mechanic arts that method is excellent. As a hand confined to a single operation becomes both expert and expeditious, a mechanic art is perfected by having its different operations distributed among the greatest number of hands: many hands are employed in making a watch, and a still greater number in manufacturing a web of woollen cloth. Various arts or operations carried on by the same man, invigorate his mind, because they exercise different faculties; and as he cannot be equally expert in every art or operation, he is frequently reduced to supply want of skill by thought and invention. Constant application, on the contrary, to a single operation, confines the mind to a single object, and excludes all thought and invention: in such a train of life, the operator becomes dull and stupid, like a beast of burden. The difference is visible in the manners of the people: in a country where, from want of hands, several occupations must be carried on by the same person, the people are knowing and conversable: in a populous country, where manufactures flourish, they are ignorant and unskillful. The same effect is equally visible in countries where an

Arts.



<sup>2</sup> **Arts.** art or manufacture is confined to a certain class of men. It is visible in Indostan, where the people are divided into casts, which never mix even by marriage, and where every man follows his father's trade. The Dutch lint-boors are a similar instance: the same families carry on the trade from generation to generation; and are accordingly ignorant and brutish even beyond other Dutch peasants. The inhabitants of Buckhaven, a sea port in the county of Fife, were originally a colony of foreigners, invited hither to teach our people the art of fishing. They continue fishers to this day, marry among themselves, have little intercourse with their neighbours, and are dull and stupid to a proverb.

<sup>3</sup> **Progress of the fine arts.** Useful arts paved the way to fine arts. Men upon whom the former had bestowed every convenience, turned their thoughts to the latter. Beauty was studied in objects of sight; and men of taste attached themselves to the fine arts, which multiplied their enjoyments, and improved their benevolence. Sculpture and painting made an early figure in Greece; which afforded plenty of beautiful originals to be copied in these imitative arts. Statuary, a more simple imitation than painting, was sooner brought to perfection: the statue of Jupiter by Phidias, and of Juno by Polycletes, though the admiration of all the world, were executed long before the art of light and shade was known. Apollodorus, and Zeuxis his disciple, who flourished in the 15th Olympiad, were the first who figured in that art. Another cause concurred to advance statuary before painting in Greece, viz. a great demand for statues of their gods. Architecture, as a fine art, made a slower progress. Proportions, upon which its elegance chiefly depends, cannot be accurately ascertained, but by an infinity of trials in great buildings; a model cannot be relied on: for a large and a small building, even of the same form, require different proportions.

<sup>4</sup> **Literary composition.** From the fine arts mentioned, we proceed to literature. It is agreed, among all antiquaries, that the first writings were in verse, and that writing in prose was of a much later date. The first Greek who wrote in prose was Pherocides Syrus: the first Roman was Appian Cæcilius, who composed a declamation against Pyrrhus. The four books of the Chatah Bhade, which is the sacred book of Hindostan, are composed in verse stanzas; and the Arabian compositions in prose followed long after those in verse. To account for that singular fact, many learned pens have been employed; but without success. By some it has been urged, that as memory is the only record of events where writing is unknown, history originally was composed in verse for the sake of memory. This is not satisfactory. To undertake the painful task of composing in verse, merely for the sake of memory, would require more foresight than ever was exerted by a barbarian: not to mention that other means were used for preserving the memory of remarkable events; a heap of stones, a pillar, or other object that catches the eye. The account given by Longinus is more ingenious. In a fragment of his treatise on verse, the only part that remains, he observes, "that measure or verse belongs to poetry, because poetry represents the various passions with their language; for which reason the ancients, in their ordinary discourse, delivered their thoughts in verse

rather than in prose." Longinus thought, that anciently men were more exposed to accidents and dangers, than when they were protected by good government and by fortified cities. But he seems not to have adverted, that fear and grief, inspired by dangers and misfortunes, are better suited to humble prose than to elevated verse. It may be added, that however natural poetical diction may be when one is animated with any vivid passion, it is not supposable that the ancients never wrote nor spoke but when excited by passion. Their history, their laws, their covenants, were certainly not composed in that tone of mind.

An important article in the progress of the fine arts, which writers have not sufficiently attended to, will perhaps explain this mystery. The article is the profession of a bard, which sprung up in early times before writing was known\*, and died away gradually as writing became more and more common†.

The songs of the bards, being universal favourites, were certainly the first compositions that writing was employed upon: they would be carefully collected by the most skilful writers, in order to preserve them in perpetual remembrance. The following part of the progress is obvious. People acquainted with no written compositions, but what were in verse, composed in verse their laws, their religious ceremonies, and every memorable transaction that was intended to be preserved in memory by writing. But when subjects of writing multiplied, and became more and more involved; when people began to reason, to teach, and to harangue; they were obliged to descend to humble prose: for to confine a writer or speaker to verse in handling subjects of that nature would be a burden unportable.

<sup>5</sup> The prose compositions of early historians are all of them dramatic. A writer destitute of art is naturally prompted to relate facts as he saw them performed: he introduces his personages as speaking and conferring; and he himself relates what was acted, and not spoke. The historical books of the Old Testament are composed in that mode; and so addicted to the dramatic are the authors of those books, that they frequently introduce God himself into the dialogue. At the same time, the simplicity of that mode is happily suited to the poverty of every language in its early periods. The dramatic mode has a delicious effect in expressing sentiment, and every thing that is simple and tender. Read, as an instance of a low incident becoming, by that means, not a little interesting, Ruth i. 8. to iv. 16.

The dramatic mode is far from pleasing so much in relating bare historical facts. Read, as an example, the story of Adonijah in 1 Kings i. 11—49.

In that passage there are frequent repetitions; not however by the same person, but by different persons, who have occasion in the course of the story to say the same things; which is natural in the dramatic mode, where things are represented precisely as they were transacted. In that view, Homer's repetitions are a beauty, not a blemish; for they are confined to the dramatic part, and never occur in the narrative.

But the dramatic mode of composition, however pleasing, is tedious and intolerable in a long history. In the progress of society new appetites and new passions arise; men come to be involved with each other

**Arts.**

\* See the article *Writing*.  
† See *Bard*.



Arts.

in various connexions; incidents and events multiply, and history becomes intricate by an endless variety of circumstances. Dialogue accordingly is more sparingly used, and in history plain narration is mixed with it. Narration is as it were the ground-work; and dialogue is raised upon it, like flowers in embroidery. Homer is admitted by all to be the great master in that mode of composition.

The narrative mode came in time so to prevail, that in a long chain of history, the writer commonly leaves off dialogue altogether. Early writers of that kind appear to have very little judgment in distinguishing capital facts from minute circumstances, such as can be supplied by the reader without being mentioned. The history of the Trojan war by Dares Phrygius is a curious instance of that cold and creeping manner of composition. The Roman histories before the time of Cicero are chronicles merely. Cato, Fabius Pictor, and Piso, confined themselves to naked facts. In the Augustæ Historiæ Scriptores we find nothing but a jejune narrative of facts, commonly of very little moment, concerning a degenerate people, without a single incident that can rouse the imagination or exercise the judgment. The monkish histories are all of them composed in the same manner.

The dry narrative manner being very little interesting or agreeable, a taste for embellishment prompted some writers to be copious and verbose. Saxo Grammaticus, who in the 12th century composed in Latin a history of Denmark surprisingly pure at that early period, is extremely verbose and full of tautologies. Such a style, at any rate unpleasent, is intolerable in a modern tongue, before it is enriched with a stock of phrases for expressing aptly the great variety of incidents that enter into history.

The perfection of historical composition which writers at last attain to after wandering through various imperfect modes, is a relation of interesting facts, connected with their motives and consequences. A history of that kind is truly a chain of causes and effects.

6  
Eloquence.

The history of Thucydides, and still more that of Tacitus, are shining instances of that mode.

Eloquence was of a later date than the art of literary composition; for till the latter was improved there were no models for studying the former. Cicero's oration for Roscius is composed in a style diffuse and highly ornamented; which, says Plutarch, was universally approved, because at that time the style of Asia, introduced into Rome with its luxury, was in high vogue. But Cicero, in a journey to Greece, where he leisurely studied Greek authors, was taught to prune off superfluities, and to purify his style, which he did to a high degree of refinement. He introduced into his native tongue a sweetness, a grace, a majesty, that surprised the world, and even the Romans themselves. Cicero observes with great regret, that if ambition for power had not drawn Julius Cæsar from the bar to command legions, he would have become the most complete orator in the world. So partial are men to the profession in which they excel. Eloquence triumphs in a popular assembly; makes some figure in a court of law composed of many judges, very little where there is but a single judge, and none at all in a despotic government. Eloquence flourished in the

publics of Athens and of Rome; and makes some figure at present in a British House of Commons.

Arts.

7  
Tragedy.

The Greek stage has been justly admired among all polite nations. The tragedies of Sophocles and Euripides, in particular, are by all critics held to be perfect in their kind, excellent models for imitation, but far above rivalship. If the Greek stage was so early brought to maturity, it is a phenomenon not a little singular in the progress of arts. The Greek tragedy made a rapid progress from Thespis to Sophocles and Euripides, whose compositions are wonderful productions of genius, considering that the Greeks at that period were but beginning to emerge from roughness and barbarity into a taste for literature. The compositions of Eschylus, Sophocles, and Euripides, must have been highly relished among a people who had no idea of any thing more perfect. We judge by comparison, and every work is held to be perfect that has no rival. It ought at the same time to be kept in view, that it was not the dialogue which chiefly enchanted the Athenians, nor variety in the passions represented, nor perfection in the actors; but machinery and pompous decoration, joined with exquisite music. That these particulars were carried to the greatest height, we may with certainty conclude from the extravagant sums bestowed on them: the exhibiting a single tragedy was more expensive to the Athenians than their fleet or their armies in any single campaign.

One would imagine, however, that these compositions were too simple to enchant for ever: as variety in action, sentiment, and passion, is requisite, without which the stage will not continue long a favourite entertainment: and yet we find not a single improvement attempted after the days of Sophocles and Euripides. The manner of performance, indeed, prevented absolutely any improvement. A fluctuation of passion and refined sentiments would have made no figure on the Grecian stage. Imagine the discording scene between Brutus and Cassius in Julius Cæsar to be there exhibited, or the handkerchief in the Moor of Venice: how slight would be their effect, when pronounced in a mask, and through a pipe? The workings of nature upon the countenance, and the flexions of voice expressive of various feelings, so deeply affecting in modern representation, would have been entirely lost. If a great genius had arisen with talents for composing a pathetic tragedy in perfection, he would have made no figure in Greece. An edifice must have been erected of a moderate size: new actors must have been trained to act with a bare face, and to pronounce in their own voice. And after all, there remained a greater miracle still to be performed, viz. a total reformation of taste in the people of Athens. In one word, the simplicity of the Greek tragedy was suited to the manner of acting; and that manner excluded all improvements.

With respect to comedy, it does not appear that the Greek comedy surpassed the tragedy in its progress toward perfection. Horace mentions three stages of Greek comedy. The first well suited to the rough and coarse manners of the Greeks, when Eupolis, Cratinus, and Aristophanes, wrote. These authors were not ashamed to represent on the stage real persons, not even disguising their names; of which we have a striking instance in a comedy of Aristophanes, called *The Clouds*, where Socrates is introduced, and most contemptuously

8

Comedy.



Arts.

temptuously treated. This sort of comedy, sparing neither gods nor men, was restrained by the magistrates of Athens, so far as to prohibit persons to be named on the stage. This led writers to do what is done at present: the characters and manners of known persons were painted so much to the life, that there could be no mistake; and the satire was indeed heightened by this regulation, as it was an additional pleasure to find out the names that were meant in the representation. This was termed the *middle comedy*. But as there still remained too great scope for obloquy and licentiousness, a law was made, prohibiting real events or incidents to be introduced upon the stage. This law happily banished satire against individuals, and confined it to manners and customs in general. Obedient to this law are the comedies of Menander, Philemon, and Diphilus, who flourished about 300 years before the Christian era. And this is termed the *third stage* of Greek comedy. The comedies of Aristophanes which still remain, err not less against taste than against decency. But the Greek comedy is supposed to have been considerably refined by Menander and his cotemporaries. Their works, however, were far from perfection, if we can draw any conjecture from their imitator Plautus, who wrote about a century later. Plautus was a writer of genius; and it may be reasonably supposed that his copies did not fall much short of the originals, at least in matters that can be faithfully copied; and he shows very little art, either in his compositions or in the conduct of his pieces. With respect to the former, his plots are wondrous simple, very little varied, and very little interesting. The subject of almost every piece is a young man in love with a music girl, desiring to purchase her from the procurer, and employing a favourite slave to cheat his father out of the price; and the different ways of accomplishing the cheat is all the variety we find. In some few of his comedies the story rises to a higher tone, the music girl being discovered to be the daughter of a freeman, which removes every obstruction to a marriage between her and her lover. In the conduct of his pieces there is a miserable defect of art. Instead of unfolding the subject in the progress of the action, as is done by Terence, and by every modern writer, Plautus introduces a person for no other end but to explain the story to the audience. In one of his comedies, a household god is so obliging as not only to unfold the subject, but to relate beforehand every particular that is to be represented, not excepting the catastrophe.

The Roman theatre, from the time of Plautus to that of Terence, made a rapid progress. Aristotle defines comedy to be "an imitation of light and trivial subjects, provoking laughter." The comedies of Plautus correspond accurately to that definition: those of Terence rise to a higher tone.

Nothing is more evident than the superiority of Terence above Plautus in the art of writing; and, considering that Terence is a later writer, nothing would appear more natural, if they did not copy the same originals. It may be owing to genius that Terence excelled in purity of language and propriety of dialogue; but how account for his superiority over Plautus in the construction and conduct of a play? It will not certainly be thought, that Plautus would imitate the worst constructed plays, leaving the best to those who should

come after him. This difficulty does not seem to have occurred to any of the commentators. Had the works of Menander and of his cotemporaries been preserved, they probably would have explained the mystery; which for want of that light will probably remain a mystery for ever.

Homer has for more than 2000 years been held the <sup>9</sup>Epoet. prince of poets. Such perfection in an author who flourished when arts were far short of maturity, is truly wonderful. The nations engaged in the Trojan war are described by him as in a progress from the shepherd state to that of agriculture. Frequent mention is made in the Iliad of the most eminent men being shepherds. Andromache, in particular, mentions seven of her brethren who were slain by Achilles as they tended their father's flocks and herds. In that state, garments of woollen cloth were used; but the skins of beasts, the original clothing, were still worn as an upper garment; every chief in the Iliad appears in that dress. Such indeed was the simplicity of this early period, that a black ewe was promised by each chief to the man who would undertake to be a spy. In times of such simplicity, literature could not be far advanced; and it is a great doubt, whether there was at that time a single poem of the epic kind for Homer to imitate or improve upon. Homer is undoubtedly a wonderful genius, perhaps the greatest that ever existed: his fire, and the boldness of his conceptions, are inimitable. But in that early age, it would fall little short of a real miracle, to find such ripeness of judgment, and correctness of execution, as in modern writers are the fruits of long experience and progressive improvements during the course of many centuries. Accordingly, that Homer is far from being so ripe, or so correct, cannot escape the observation of any reader of taste and discernment. One striking particular is, his digressions without end, which draw our attention from the principal subject. Diomedes, for instance, meeting with Glaucus in the field of battle, and doubting from his majestic air, whether he might not be an immortal, inquires who he was, declaring that he would not fight with a god. Glaucus lays hold of this very slight opportunity, in the very heat of action, to give a long history of his family. In the mean time, the reader's patience is put to a trial, and his ardour cools. Again, Agamemnon desiring advice how to resist the Trojans, Diomedes springs forward; but before he offers advice, gives the history of all his progenitors, and of their characters, in a long train. And, after all, what was the sage advice that required such a preface? It was, that Agamemnon should exhort the Greeks to fight bravely. At any rate, was Diomedes so little known, as to make it proper to suspend the action at so critical a juncture, for a genealogical history? There is a third particular which justly merits censure; and that is, an endless number of minute circumstances, especially in the description of battles, where they are most improper. The capital beauty of an epic poem is, the selection of such incidents and circumstances as make a deep impression, keeping out of view every thing low or familiar. An account of a single battle employs the whole fifth book of the Iliad and a great part of the sixth: yet in the whole there is no general action; but unknown warriors, whom we never heard of before, killed at a distance with an arrow or a javelin;

Arts.



Arts. lin; and every wound described with anatomical accuracy. The whole seventeenth book is employed in the contest about the dead body of Patroclus, stuffed with minute circumstances, below the dignity of an epic poem. In such scenes the reader is fatigued with endless particulars; and has nothing to support him but the melody of Homer's versification.

10  
Causes of  
the decline  
of the fine  
arts.

Having traced the progress of the fine arts toward maturity, in a summary way, the decline of these arts comes next in order. An art, in its progress toward maturity, is greatly promoted by emulation; and, after arriving at maturity, its downfall is not less promoted by it. It is difficult to judge of perfection but by comparison; and an artist, ambitious to outstrip his predecessors, cannot submit to be an imitator, but must strike out something new, which, in an art advanced to ripeness, seldom fails to be a degeneracy. This cause of the decline of the fine arts may be illustrated by various instances. The perfection of vocal music is to accompany passion, and to enforce sentiment. In ancient Greece, the province of music was well understood; which being confined without its proper sphere, had an enchanting influence. Harmony at that time was very little cultivated, because it was of very little use: melody reaches the heart, and it is by it chiefly that a sentiment is enforced, or a passion soothed; harmony, on the contrary, reaches the ear only, and it is a matter of undoubted experience, that the most melodious airs admit but of very simple harmony. Artists, in later times, ignorant why harmony was so little regarded by the ancients, applied themselves seriously to its cultivation; and they have been wonderfully successful. But they have been successful at the expence of melody; which in modern compositions, generally speaking, is lost amid the blaze of harmony. These compositions tickle the ear by the luxury of complicated sounds, but seldom make any impression on the heart. The Italian opera, in its form, resembles the Greek tragedy, from which it is evidently copied; but very little in substance. In the latter, music being made subservient to sentiment, the dialogue is nervous and sublime: in the former, the whole weight is laid on music; and the dialogue, devoid of sentiment, is weak and spiritless. Restless man knows no golden mean, but will be attempting innovations without end. By the same ambition, architecture has visibly declined from its perfection. The Ionic was the favourite order when architecture was in its height of glory. The Corinthian order came next; which, in attempting greater perfection, has deviated from the true simplicity of nature: and the deviation is still greater in the Composite order. With respect to literary productions, the first essays of the Romans were very imperfect. We may judge of this from Plautus, whose compositions are abundantly rude, though much admired by his contemporaries, being the best that existed at that time. The exalted spirit of the Romans hurried them on to the grand and beautiful; and literary productions of all kinds were in perfection when Augustus reigned. In attempting still greater perfection, the Roman compositions became a strange jumble of inconsistent parts: they were tumid and pompous; and, at the same time, full of antitheses, conceit, and tinsel wit. Every thing new in the fine arts pleases, though less perfect than what we are accustomed to; and, for

that reason, such compositions were generally relished. We see not by what gradual steps writers, after the time of Augustus, deviated from the patterns that were before them; for no book of any moment after that time is preserved till we come down to Seneca, in whose works nature and simplicity give place to artificial thought and bastard wit. He was a great corrupter of the Roman taste; and after him nothing was relished but brilliant strokes of fancy, with very little regard to sentiment: even Virgil and Cicero made no figure in comparison. Lucan has a forced elevation of thought and style very difficult to be supported; and, accordingly, he sinks often into puerile reflections; witness his encomium on the river Po; which, says he, would equal the Danube, had it the same number of tributary streams. Quintilian, a writer of true and classical taste, who was protected and encouraged by Vespasian, attempted to stem the tide of false writing. His rhetoric is composed in an elegant style; and his observations contain every delicacy of the critical art. At the same time flourished Tacitus, possessing a more extensive knowledge of the nature of man than any other author, ancient or modern, if Shakespeare be not excepted. His style is original, concise, compact, and comprehensive; and, in what is properly called his *history*, perfectly correct and beautiful. He has been imitated by several, but never equalled by any. Brutus is said to be the last of the Romans for love of liberty: Quintilian and Tacitus may be said to be the last of the Romans for literary genius. Pliny the younger is no exception; his style is affected, turgid, and full of childish brilliancy. Seneca and Pliny are proper examples of writers who study show more than substance, and who make sense yield to sound. The difference between these authors and those of the Augustan age, resembles the difference between Greek and Italian music. Music, among the Greeks, limited itself to the employment to which it is destined by nature, viz. to be the handmaid of sense, to enforce, enliven, or sweeten a sentiment. In the Italian opera, the mistress is degraded to be handmaid; and harmony triumphs, with very little regard to sentiment.

Another great cause that precipitates the downfall of every fine art is despotism. The reason is obvious; and there is a dismal example of it in Rome, particularly with regard to eloquence. We learn from a dialogue accounting for the corruption of the Roman eloquence, that in the decline of the art it became fashionable to stuff harangues with impertinent poetical quotations, without any view but ornament merely; and this also was long fashionable in France. It happened unluckily for the Romans, and for the world, that the fine arts were at their height in Rome, and not much upon the decline in Greece, when despotism put an end to the republic. Augustus, it is true, retarded their fall, particularly that of literature; it being the politics of his reign to hide despotism, and to give his government an air of freedom. His court was a school of urbanity, where people of genius acquired that delicacy of taste, that elevation of sentiment, and that purity of expression, which characterize the writers of his time. He honoured men of learning, admitted them to his table, and was bountiful to them. It would be painful to follow the decline of the fine arts in Rome to their

Arts.



Arts.

their total extirpation. The tyranny of Tiberius, and of subsequent emperors, broke at last the elevated and independent spirit of the brave Romans, reduced them to abject slavery, and left not a spark of genius. The science of law is the only exception, as it flourished even in the worst of times: the Roman lawyers were a respectable body, and less the object of jealousy than men of power and extensive landed property. Among the Greeks also, a conquered people, the fine arts decayed; but not so rapidly as at Rome: the Greeks, farther removed from the seat of government, being less within the reach of a Roman tyrant. During their depression, they were guilty of the most puerile conceits: witness verses composed in the form of an axe, an egg, wings, and such like. The style of Greek authors, in the reign of the emperor Adrian, is unequal, obscure, stiff, and affected. Lucian is the only exception that may be made.

We scarcely need any other cause but despotism, to account for the decline of statuary and painting in Greece. These arts had arrived at their utmost perfection about the time of Alexander the Great; and from that time they declined gradually with the vigour of a free people; for Greece was now enslaved by the Macedonian power. It may in general be observed, that when a nation becomes stationary in that degree of power which it acquires from its constitution and situation, the national spirit subsides, and men of talents become rare. It is still worse with a nation that is sunk below its former power and pre-eminence; and worst of all when it is reduced to slavery. Other causes concurred to accelerate the downfall of the arts mentioned. Greece, in the days of Alexander, was filled with statues of excellent workmanship; and there being little demand for more, the later statuary were reduced to heads and busts. At last the Romans put a total end both to statuary and painting in Greece, by plundering it of its finest pieces; and the Greeks, exposed to the avarice of the conquerors, bestowed no longer any money on the fine arts.

\* Petronius  
Arbiter.

The decline of the fine arts in Rome is by a \* writer of taste and elegance ascribed to a cause different from any above mentioned, a cause that overwhelms manhood as well as the fine arts wherever it prevails; and that is opulence, joined with its faithful attendants avarice and luxury. "In ancient times (says he), when naked virtue had her admirers, the liberal arts were in their highest vigour; and there was a generous contest among men, that nothing of real and permanent advantage should long remain undiscovered. Democritus extracted the juice of every herb and plant; and, lest the virtue of a single stone or twig should escape him, he consumed a lifetime in experiments. Eudoxus, immersed in the study of astronomy, spent his age upon the top of a mountain. Chrysis, to stimulate his inventive faculty, thrice purified his genius with hellebore. To turn to the imitative arts: Lysippus, while labouring on the form of a single statue, perished from want. Myron, whose powerful hand gave to the brass almost the soul of man and animals,—at his death found not an heir! Of us of modern times what shall we say? Immersed in drunkenness and debauchery, we want the spirit to cultivate those arts which we possess. We inveigh against the manners of antiquity; we study vice alone; and vice is

all we teach. Where now is the art of reasoning? Where astronomy? Where is the right path of wisdom? What man now-a-days is heard in our temples to make a vow for the attainment of eloquence, or for the discovery of the fountain of true philosophy? Nor do we even pray for health of body, or a sound understanding. One, while he has scarce entered the porch of the temple, devotes a gift in the event of the death of a rich relation; another prays for the discovery of a treasure; a third for a ministerial fortune. The senate itself, the exemplary preceptor of what is good and laudable, has promised a thousand pounds of gold to the capitol; and, to remove all reproach from the crime of avarice, has offered a bribe to Jupiter himself. How should we wonder that the art of painting has declined, when, in the eyes both of the gods and men, there is more beauty in a mass of gold than in all the works of Phidias and Apelles."—In England, the fine arts are far from such perfection as to suffer by opulence. They are in a progress, it is true, toward maturity; but they proceed in a very slow pace.

There is still another cause that never fails to undermine a fine art in a country where it is brought to perfection, abstracting from every one of the causes above mentioned. It is remarked a little above, that nothing is more fatal to an art or to a science than a performance so much superior to all of the kind as to extinguish emulation. This remark is exemplified in the great Newton, who having surpassed all the ancients, has not left to his countrymen even the faintest hope of rivalling him; and to that cause is attributed the visible decline of mathematics in Great Britain! The same cause would have been fatal to the arts of statuary and painting among the Greeks, even though they had continued a free people. The decay of painting in modern Italy is, probably, owing to the same cause: Michael Angelo, Raphael, Titian, &c. are lofty oaks that bear down young plants in their neighbourhood, and intercept from them the sunshine of emulation. Had the art of painting made a slower progress in Italy, it might have there continued in vigour to this day. Velleius Paterculus says judiciously, "Ut primo ad consequendos quos priores ducimus accendimur; ita, ubi aut præteriri aut æquari eos posse desperavimus, studium cum spe senescit; et quod adsequi non potest, sequi desinit: præteritoque eo in quo eminere non possumus, aliquid in quo nitamur conquerimus."

The decline of an art or science proceeding from the foregoing cause, is the most rapid where a strict comparison can be instituted between the works of different masters. The superiority of Newton above every other mathematician can be ascertained with precision; and hence the sudden decline of that science in Great Britain. In Italy a talent for painting continued many years in vigour, because no painter appeared with such superiority of genius as to carry perfection in every branch of the art. As one surpassed in designing, one in colouring, one in graceful attitudes, there was still scope for emulation. But when at last there was not a single perfection but what one or other master had excelled in, from that period the art began to languish. Architecture continued longer in vigour than painting, because the principles of comparison in the former are less precise than in the latter. The artist who

Arts.



<sup>10</sup> Arts. who could not rival his predecessors in an established mode, fought out a new mode for himself, which, though perhaps less elegant or perfect, was for a time supported by novelty.

<sup>11</sup> Useful arts less subject to decline. Useful arts will never be neglected in a country where there is any police; for every man finds his account in them. Fine arts are more precarious. They are not relished but by persons of taste, who are rare; and such as can spare great sums for supporting them are still more rare. For that reason, they will never flourish in any country, unless patronized by the sovereign, or by men of power and opulence. They merit such patronage, as one of the springs of government: and a capital spring they make, by multiplying amusements, and humanizing manners; upon which account they have always been encouraged by good princes.

<sup>12</sup> THEORY of the polite arts. General Theory of the Polite Arts. The essence of the polite arts, as before observed, consists in *expression*. The end of all these arts is *pleasure*; whereas the end of the sciences is *instruction* and *utility*. Some of the polite arts indeed, as eloquence, poetry, and architecture, are frequently applied to objects that are useful, or exercised in matters that are instructive, as we shall show more particularly in their proper place; but in these cases, though the ground-work belongs to those sciences which employ the understanding, yet the expression arises from the inventive faculty. It is a picture that is designed by Minerva, to which the Muses add the colouring, and the Graces the frame. This union forms therefore the perfection of the art, according to that sententious and well known precept of Horace:

*Omne tulit punctum, qui miscuit utile dulci.*

<sup>13</sup> What arts so denominated. Under the denomination therefore, of Polite Arts, we comprehend, 1. Eloquence; 2. Poetry; 3. Music; 4. Painting; 5. Sculpture; 6. Graving; 7. Architecture; 8. Declamation; 9. Dancing. Particular descriptions of these arts are given under their respective names. This branch of the present article is intended as a general introduction to them; and, as such, will be occasionally referred to.

<sup>14</sup> Use of precepts. There is one very essential reflection, which it appears to us proper to make in the first place, on the polite arts in general. All the rules in the world are not sufficient to make a great poet, an able orator, or an excellent artist; because the quality, necessary to form these, depends on the natural disposition, the fire of genius, which no human art can confer, but which is the pure gift of heaven. The rules, however will prevent a man from being a bad artist, a dull orator, or a wretched poet; seeing they are the reflections of the greatest masters in those arts, and that they point out the rocks which the artist should shun in the exercise of his talents. They are of use moreover, in facilitating his labours, and in directing him to arrive by the shortest and surest road at perfection. They refine, strengthen, and confirm his taste. Nature, abandoned to herself, has something constantly wild and savage. Art, founded on just and sagacious rules, gives her elegance, dignity, and politeness; and it is impossible to sacrifice properly to the Graces, without knowing the incense that is pleasing to them.

*Beauty* is the object of all the polite arts. It is not

however, so easy, as it may seem, to give a clear and determinate idea of what we precisely mean by that term\*. Many able writers, who have treated expressly on the subject, have shown that they were totally ignorant of what it was. It is one of these expressions that we comprehend immediately, that present us with a clear and precise idea, that leave a distinct impression on our minds, when it is simply written or pronounced; but which philosophers envelope in darkness, when they attempt to elucidate it by definitions and descriptions; and the more, as mankind have different ideas of beauty, their opinions and tastes being as various as their understandings and physiognomies. We may say, however, in general, that beauty results from the various perfections of which any object is susceptible, and which it actually possesses; and that the perfections which produce beauty consist principally in the agreeable and delightful proportions which are found, 1. Between the several parts of the same object; 2. Between each part and the whole together; 3. Between the parts and the end or design of the object to which they belong. *Genius*, or invention, is that faculty of the mind by which *beauty* is produced. *Taste* †, disposition, or rather the natural sensation of the mind refined by art, serves to guide the genius in discerning, embracing, and producing, that which is beautiful of every kind. From whence it follows, that the general theory of the polite arts is nothing more than the knowledge of what they contain that is truly beautiful and agreeable; and it is this knowledge, this theory, which modern philosophers call by the Latin name of *aesthetica*.

It should be constantly remembered, that the essence of the polite arts consists in expression. This expression lies sometimes in the words, and sometimes in the pen; sometimes in sounds and their harmony, and at others in corporeal attitudes; sometimes in the pencil or in the chisel, and at others in the graver; sometimes in a proper disposition or judicious employment of the mechanic arts, and at others merely in their manner of acting. From whence arise those arts that we have mentioned, and which are described in their order.

<sup>16</sup> The general theory of the polite arts, or *aesthetics*, necessarily supposes, therefore, certain rules; but these general rules are of no great number. The first is, That whoever would devote himself to the polite arts, should above all things *consult his genius*; divest himself of self-love; and examine if he be a true son of Apollo, and cherished by the Muses: for

In vain, rash author, dost thou strive to climb,  
By lofty verse, Parnassus' height sublime,  
If heaven does not by secret powers inspire,  
Or if thy natal star darts not poetic fire.

<sup>17</sup> This precept with regard to poetry in particular, is applicable to all the polite arts in general: for their most happy success is founded on *imagination*. By this term we understand, in general, a faculty of the mind, a particular genius, a lively invention, a certain subtle spirit, which gives a facility in discovering something new. But it is necessary also to prescribe just bounds to this term *new*, which must not be here taken in an absolute sense. Solomon wisely remarks, <sup>18</sup> that, even in his time, *there was nothing new under the sun*.

Arts.  
<sup>15</sup> Beauty, genius, taste, what.

\* See the article Beauty.

† See Taste.

<sup>16</sup> First general rule.

<sup>17</sup> *Imagination*, what.

<sup>18</sup> *Novelty* and *Invention*.



Arts. *the sun.* In fact, all that exists, and all that is capable of being discovered in the known world, has already been discovered. The fine arts in their imitations of nature, in their expressions, can borrow images, figures, comparisons, from those things only that exist and are known. As there have been from the beginning of the world to our days, millions of authors in each of the polite arts, almost all the possible combinations of the various subjects have been produced by their lively imaginations; and when we hear the ignorant part of mankind talk of a work of wit or of art *that is entirely new*, that offers ideas which were before utterly unknown, that had never entered into the brain of any other man, we should refer such assertions to the class of popular errors; and reflect on those stories we every day hear of certain empirics, who pretend to be alone possessed of marvellous methods of cure by means of simples; as if there were any plant, any stalk of grass that grows in our world, that can have escaped the researches of botanists. But the novelty, of which we here speak, consists in the ingenious use of combinations of all the various objects of nature, that are new, happy, and agreeable, that have not yet been exhausted, and which appear even to be inexhaustible; and of the use which the artist makes of all new discoveries, which he turns to his advantage, by a judicious application. Invention therefore supposes a considerable fund of preliminary knowledge, such as is capable of furnishing ideas and images, to form new combinations. But there is no art by which invention itself can be produced; for that, as we have already said, is the gift of heaven; and it is an endowment which we cannot even make use of whenever we please. We would rather say, therefore, that invention consists in producing, in works of genius, *that which is unexpected*; an object, a harmony, a perfection, a thought, an expression of which we had no idea, that we could not foresee, nor hope to find, where the artist has so happily placed it, and where we perceive it with delight. This idea appears applicable to such of the polite arts as affect the mind by the hearing as well as by the sight; and it is a matter that is highly essential.

19  
2d Rule, Improvement of taste.

The second rule is, That every artist ought incessantly to labour in the improvement of his *taste*; in acquiring that sensible, refined, and clear discernment, by which he will be enabled to distinguish the real beauties in each object, the ornaments that are agreeable to it, and the proportions and relations that subsist among the several parts: and by this faculty, he will be regulated in the employment of his natural talents. This labour consists not only in the profound reflections he will make on the properties of objects as they relate to the fine arts, but also in a constant, assiduous study of the grand models of beauty.

20  
3d, Imitation of nature.

The third rule to be observed in the practice of the polite arts, is *the imitation of nature*. Every object in the universe has its peculiar nature, of which the artist should never lose sight in his manner of treating it. In vain will he otherwise ornament his work with the most refined and most brilliant strokes; for, if nature be not justly imitated, it will for ever remain imperfect. The sublime Homer has sometimes sinned against this rule: for, as the gods have a nature peculiar to themselves, it cannot be a just imitation when we attribute to them

Arts. passions that are scarce pardonable in mortals, and make them frequently converse in a language that is at once vulgar and ridiculous. It was not to imitate nature, to put in the mouth of a hero, at the moment of a decisive battle, an harangue that must become tedious by its excessive length, and which certainly could not have been heard by the thousandth part of a numerous army: but we have already touched upon some of the faults that are strewed over the poems of that great man; to multiply or dwell upon them would be ungrateful. We must, however, observe that this imitation of nature, which appears at first view so simple and so easy, is of all things the most difficult in practice; and that it requires a discernment so sagacious, and an expression so happy, as is rarely bestowed by heaven on mortal man.

*Perpicuity* forms the fourth rule of expression. In all the fine arts, in general, an obscure, perplexed, ambiguous, and elaborate expression, is always bad. The true striking beauty must be manifest and perceptible to the most ignorant of mankind as well as the most learned. Those are ever false or inferior beauties that have occasion for a covering, a kind of veil that may make them appear greater than they really are: true beauty wants no veil, but shines by its native lustre. From the union of the true imitation of nature with perpicuity of expression arises that *truth* which is so essential in the productions of the fine arts.

In all the polite arts, and in all the subjects they embrace, there must necessarily reign an elevation of sentiment, that expresses each object in the greatest perfection of which it is susceptible; that imitates nature in her most exalted beauty. This makes the fifth general rule. The design of the fine arts being to excite pleasure by the expression of that which is beautiful, every artist should raise himself above his subject; and, choosing the most favourable light wherein to place it, should there embellish it with the greatest, most noble, and beautiful ornaments, that his own genius can suggest; still, however, observing a strict imitation of nature.

From the observation of these two last rules results the *sublime*, which is the union of the greatest perpicuity with the strictest truth and most exalted elevation possible. It is necessary to remark here, that the most simple and common subjects are susceptible of a sublime that is agreeable to their nature. An idyl or landscape may be as sublime in their kinds as an epic poem or a history piece. When Moses begins the book of Genesis, with these words, *In the beginning God created the heaven and the earth*; or when he tells us, that God said, *Let there be light, and there was light*; these expressions are sublime in the highest degree, because they are perfectly clear, true, and elevated. Every author should therefore endeavour after the sublime\* in every subject that he undertakes; and this makes the sixth and last general rule in the practice of the polite arts. But if he cannot attain to this, it is, however, indispensably necessary that he constantly make use of expressions that are *noble and refined*. Every thing that is *low, indecent, or disagreeable*, is naturally repugnant to the sublime, and ought to be for ever banished from all works that proceed from the noble and liberal arts.



Art  
||  
Artaxata.

ART is also an appellation given to several superstitious practices, as, *St Anselm's art*, *St Paul's art*, &c.

*Art and Part*, in *Scots Law*. See ACCESSORY.

ARTA, by some called *Larta*, a town of Lower Albania, in Turkey in Europe, with a Greek archbishop's see. It is a pretty large town, and contains about 7000 or 8000 inhabitants, Greeks and Turks; but the former are the most numerous. The cathedral has as many windows and doors as there are days in the year. It is supported by above 2000 marble pillars; and was built by Michael Ducas Commeno emperor of Constantinople, as appears by an inscription over the great door. It carries on a considerable trade, particularly in tobacco and furs. E. Long. 31. 30. N. Lat. 39. 28.

ARTABA, an ancient measure of capacity used by the Persians, Medes, and Egyptians.

The Persian artaba is represented by Herodotus as bigger than the Attic medimnus by three Attic chœnixes: from which it appears that it was equal to  $6\frac{3}{4}$  Roman modii; consequently that it contained  $166\frac{3}{4}$  pounds of wine or water, or  $126\frac{3}{4}$  pounds of wheat. The Egyptian artaba contained five Roman modii, and fell short of the Attic medimnus by one modius; consequently held  $133\frac{3}{4}$  pounds of water or wine, 100 pounds of wheat, or 60 of flour.

ARTABANUS, the name of several kings of Parthia. See PARTHIA.

ARTABAZUS, the son of Pharnaces, commanded the Parthians and Chorasmians in the famous expedition of Xerxes. After the battle of Salamis, he escorted the king his master to the Hellespont with 60,000 chosen men; and after the battle of Plataea, in which Mardonius engaged contrary to his advice, he made a noble retreat, and returned to Asia with 40,000 men under his command.

ARTAXATA, the royal residence and metropolis of Armenia Major (Strabo, Pliny, Juvenal), and built according to a plan of Hannibal, for King Artaxias, after whom it was called. It was situated on an elbow of the river Araxes, which formed a kind of peninsula, and surrounded the town like a wall, except on the side of the isthmus, but this side was secured by a rampart and ditch. This town was deemed so strong, that Lucullus, after having defeated Tigranes, durst not lay siege to it; but Pompey compelled him to deliver it up without striking a blow. It was then levelled with the ground; but the Armenians have a tradition, that the ruins of it are still to be seen at a place called *Ardachat*. Sir John Chardin says, that it has the name of *Ardachat* from Artaxias, whom in the East they call *Ardechier*. Here are the remains of a stately palace which the Armenians take to be that of Tiridates who reigned in the time of Constantine the Great. One front of this building is but half ruined, and there are many other fine antiquities which the inhabitants call *Taët Tradat*, that is, the throne of Tiridates. Tavernier also mentions the ruins of Artaxata between Erivan and Mount Ararat, but does not specify them. The ancient geographers mention another city of the same name, likewise situated on the Araxes, but in the northern part of Media, known among the ancients by the name of *Acropatia*.

Vol. II. Part II.

ARTAXERXES, the name of several kings of Persia. See PERSIA.

ARTEDI, PETER, an eminent naturalist, was born in Sweden in the year 1705, in the province of Angermania. Although his parents were poor, yet it appears they found means to give him a liberal education, and with this view they sent him to the college of Hurnesand. Intending to embrace the ecclesiastical profession, he went in 1724 to Upsal; but being fond of the study of natural history, he yielded to the bent of inclination, and directed his attention towards medicine. In natural history he made rapid progress, and soon arose to considerable eminence, particularly in the knowledge of *Ichthyology*. His reputation for natural knowledge was high when Linnæus arrived at Upsal in the year 1728. A lasting friendship was formed between these two great men. Confining his botanical studies to the umbelliferous plants, he suggested a new mode of classification; but Artedi was much better acquainted with chemistry than botany. His attention was chiefly directed to ichthyology, the classification of which he greatly reformed, and new-modelled upon philosophical principles. This arrangement added greatly to his reputation as a naturalist. When the two friends were about to leave Upsal, Linnæus to go to Lapland, and Artedi to England, they reciprocally bequeathed to each other their manuscripts and books upon the event of death. In the year 1735, they, however, met again at Leyden, where Artedi was introduced to Seba, and employed in preparing for the press the third volume of that eminent naturalist's *Theſaurus*, which chiefly related to fishes. Artedi formed the resolution, as soon as that work was finished, to return to his native country, to publish the fruits of his own labours; but unfortunately as he was returning home from Seba's house on the evening of September 27. 1735, the night being dark, he fell into the canal and was drowned. According to agreement, his manuscripts came into the hands of Linnæus, and he published his *Bibliotheca Ichthyologica*, and *Philosophia Ichthyologica*, together with a life of the author, at Leyden in the year 1738. (*Gen. Biog.*)

ARTEDIA. See BOTANY *Index*.

ARTEMIDORUS, famous for his Treatise on Dreams. He was born at Ephesus, but took upon him the surname of *Daldianus* in this book, by way of respect to his mother country Daltis. He styled himself *the Ephesian* in his other performances. He not only bought up all that had been written concerning the explication of dreams, which amounted to many volumes; but he likewise spent many years in travelling, in order to contract an acquaintance with fortune-tellers; he also carried on an extensive correspondence with all the people of this sort in the cities and assemblies of Greece, Italy, and the most populous islands; collecting at the same time all the old dreams, and the events which are said to have followed them. The work which he wrote on dreams consisted of five books: the first three were dedicated to one Cassius Maximus; and the last two to his son, whom he took a good deal of pains to instruct in the nature and interpretation of dreams. This work, though filled with frivolous observations, contains some things that are interesting. It was first printed in Greek at Venice in 1518; and Rigaltius published an edition at Paris, in

Artaxerxes  
||  
Artemidorus.



Artemiſia, Greek and Latin, in 1603, and added ſome notes. Artemiſium. Artemidorus wrote alſo a treatiſe upon Auguries, and another upon Chiromancy; but they are not extant. He lived under the emperor Antoninus Pius.

ARTEMISIA, wife of Mauſolus, king of Caria, has immortalized herſelf by the honours which ſhe paid to the memory of her huſband. She built for him in Halicarnaſſus a very magnificent tomb, called the *Mauſoleum*, which was one of the ſeven wonders of the world, and from which the title of *Mauſoleum* was afterwards given to all tombs remarkable for their grandeur; but ſhe died of regret and ſorrow before the *Mauſoleum* was finiſhed. She appointed panegyrics to be made in honour of him, and propoſed a prize of great value for the perſon who ſhould compoſe the beſt. He died about the end of the 106th Olympiad, 351 years before the Chriſtian era.

ARTEMISIA, queen of Caria, and the daughter of Ligdamis, marched in perſon in the expedition of Xerxes againſt the Greeks, and performed wonders in the ſea-fight near Salamis, 480 years before the Chriſtian era. Being purſued by an Athenian veſſel, ſhe attacked one of the Perſian ſhips, commanded by Demaſithymus, king of Calyndus, her enemy, and ſunk it; on which the Athenians, thinking that her ſhip was on the ſide of the Greeks, ceaſed their purſuit: but Xerxes was the principal perſon impoſed upon in this affair; for believing he had ſunk an Athenian veſſel, he declared, that “the men had behaved like women, and the women like men.” Xerxes intruſted her with the care of the young princes of Perſia, his ſons, when, agreeably to her advice, he abandoned Greece, in order to return to Aſia. Theſe great qualities did not ſecure her from the weakneſs of love: ſhe was paſſionately fond of a man of Abydos, whoſe name was Dardanus, and was ſo enraged at his neglect of her, that ſhe put out his eyes while he was aſleep. The gods in order to puniſh her for this, inſpired her with a ſtill ſtronger paſſion for him; ſo that the oracle having adviſed her to go to Leucas, which was the uſage of deſperate lovers, ſhe took the leap from thence, and was interred at that place.—Many writers conſound this Artemiſia with the former, the wife of Mauſolus.

ARTEMISIA, *Mugwort*, *Southernwood*, and *Wormwood*. See BOTANY Index.

ARTEMISIUM, in *Ancient Geography*, a promontory on the north-eaſt of Eubœa, (called *Leon* and *Cale Aſie* by Ptolemy), memorable for the firſt ſea engagements between the Greeks and Xerxes.

The Grecian fleet was ſtationed in the harbour; while that of the Perſians, too numerous for any harbour to contain, had anchored in the road that extends between the city of Caſtanœa and the promontory of Sepias, on the coaſt of Theſſaly.

The firſt line of their fleet was ſheltered by the coaſt of Theſſaly; but the other lines, to the number of ſeven, rode at anchor, at ſmall intervals, with the prows of the veſſels turned to the ſea. When they adopted this arrangement, the waters were ſmooth, the ſky clear, the weather calm and ſerene: but on the morning of the ſecond day after their arrival on the coaſt, the ſky began to lower; the appearance of the heavens grew threatening and terrible; a dreadful ſtorm ſucceeded, and for three days raged with unabating

fury. Four hundred galleys were deſtroyed by its violence, beſides a vaſt number of ſtoreships and transports. Eight hundred ſhips of war, however, beſides innumerable veſſels of burden, failed into the Pegæſean bay, and anchored in the road of Apheté, which, at the diſtance of a few miles, lies directly oppoſite to the harbour of Artemiſium.

The Grecians had poſted centinels on the heights of Eubœa to obſerve the conſequence of the ſtorm, and to watch the motions of the enemy. When informed of the diſaſter which had befallen them, they poured out a joyous libation, and ſacrificed with pious gratitude, to “Neptune the Deliverer.”

The Perſians, however, having recovered from the terrors of the ſtorm, prepared for battle; and as they entertained not the ſmalleſt doubt of conquering, they detached 200 of their beſt ſailing veſſels round the iſle of Eubœa to intercept the expected flight of the enemy through the narrow Euripus.

About ſunſet the Grecian fleet approached in a line; and the Perſians met them with the confidence of victory, as their ſhips were ſtill ſufficiently numerous to ſurround thoſe of their opponents. At the firſt ſignal the Greeks formed into a circle, at the ſecond they began the fight. Though crowded into a narrow compaſs, and having the enemy on every ſide, they ſoon took 30 of their ſhips, and ſunk many more. Night came on, accompanied with an impetuous ſtorm of rain and thunder; the Greeks retired into the harbour of Artemiſium; the enemy were driven to the coaſt of Theſſaly.

By good fortune, however, rather than by deſign, the greateſt part of the Perſian fleet eſcaped immediate deſtruction, and gained the Pegæſean bay; but the ſhips ordered to ſail round Eubœa met with a more dreadful diſaſter. They were overtaken by the ſtorm, after they had adventured further from the ſhore than was uſual with the wary mariners of antiquity. Clouds ſoon intercepted the ſtars, by which alone they directed their courſe; and after continuing during the greateſt part of the night the ſport of the elements, they all periſhed miſerably amidſt the ſhoals and rocks of an unknown coaſt.

The morning aroſe with different proſpects and hopes to the Perſians and the Greeks. To the former it diſcovered the extent of their miſfortunes; to the latter it brought a reinforcement of 53 Athenian ſhips. Encouraged by this favourable circumſtance, they determined again to attack the enemy, at the ſame hour as on the preceding day, becauſe their knowledge of the coaſt and their ſkill in fighting their ſhips rendered the duſk peculiarly propitious to their deſigns. At the appointed time, they ſailed towards the road of Apheté; and having cut off the Cilician ſquadron from the reſt, totally deſtroyed it, and returned at night to Artemiſium.—The Perſian commanders being deeply affected with their repeated diſaſters, but ſtill more alarmed at the much-dreaded reſentment of their king, they determined to make one vigorous effort for reſtoring the glory of their arms. By art and ſtratagem, and under favour of the night, the Greeks had hitherto gained many important advantages. It now belonged to the Perſians to chooſe the time for action. On the third day at noon, they ſailed forth in the form of a crescent, which was ſufficiently

Artemiſium.

From *Gil-  
lies's Hiſtory  
of Greece.*



Artemisi-  
um  
||  
Arthur.

ficiently extensive to unfold the Grecian line. The Greeks, animated by former success, were averse to decline any offer of battle; yet it is probable that their admirals, and particularly Themistocles, would much rather have delayed it to a more favourable opportunity. Rage, resentment, and indignation, supplied the defect of the barbarians in skill and courage. The battle was longer, and more doubtful, than on any former occasion; many Grecian vessels were destroyed, five were taken by the Egyptians, who particularly signalized themselves on the side of the barbarians, as the Athenians did on that of the Greeks. The persevering valour of the latter at length prevailed, the enemy retiring, and acknowledging their superiority, by leaving them in possession of the dead and the wreck. But the victory cost them dear; since their vessels, particularly those of the Athenians, were reduced to a very shattered condition; and their great inferiority in the number and size of their ships, made them feel more sensibly every diminution of strength.

ARTEMISIUM, a town of Oenotria, (Stephanus): now *S. Agatha*, in the Hither Calabria, on the river Pisaurus, or la Foglia, distant eight miles from the Tuscan sea.—Another of the Contestani, in Spain, (Strabo); otherwise called *Dianium*: now *Denia*, on the sea coast of Valencia.

ARTERIOTOMY, the opening an artery, with design to procure an evacuation of blood. See SURGERY.

ARTERY, in *Anatomy*, a conical tube or canal which conveys the blood from the heart to all parts of the body. See ANATOMY.

ARTHRITIS, in *Medicine*, the GOUT. See the *Index* subjoined to MEDICINE.

ARTHRODIA, in *Natural History*, a genus of imperfect crystals, found always in complex masses, and forming long single pyramids, with very short and slender columns.

ARTHRODIA, in *Anatomy*, a species of articulation, wherein the flat head of one bone is received into a shallow socket in the other. The humerus and scapula are joined by this species of articulation.

ARTHUR, the celebrated hero of the Britons, is said to have been the son of Uther Pendragon king of Britain, and to have been born in 501. His life is a continued scene of wonders. It is said that he killed four hundred and seventy Saxons with his own hand in one day; and after having subdued many mighty nations, and instituted the order of the Knights of the Round Table, died A. D. 542, of wounds which he received in battle. The most particular detail of his story and his exploits is that given by Geoffroy of Monmouth: but the probable there is so blended with the marvellous and the extravagant, that not only the truth of the whole, but even the reality of Arthur's existence, has been called in question.

In this controversy, Mr Whittaker has taken much pains to vindicate the existence, and discriminate between the real and the fabulous transactions, of the British worthy. "Many of the actions (he observes) attributed to Arthur by the Welsh chronicles of Britain, are as absurd in themselves as they are spurious in their authority. Written, as those narratives were, many centuries after the facts, and being merely the authentic accounts of Arthur, embellished with the

fictional and distorted by the perversions of folly; they are inconsistent equally with the state of the times, and the history of the continent and the island. And the ignorance of the forgers, and the credulity of their abettors, can be equalled only by the injudiciousness and incredulity of the opponents to both. If some accounts of Arthur and Cunobeline in these histories be certainly spurious, others are as certainly genuine. And the relations of Suetonius, Dio, and Nennius, are not to be rejected, because of the falsehoods which imposture has grafted upon them, and absurdity admitted with them.

"The existence of Arthur is evinced by that of the fables, which have at once annihilated his actions and his name with the misjudging critic. And the reasoner's own arguments really turn against himself, and demonstrate the point which they were intended to disprove. The annals of Wales have long laboured in Arthur's commendation. The Highlanders have long had a poetical history of his exploits in their own language. The whole island is in traditionary possession of his character; and 600 or 700 places within it are still distinguished by his name.

"The genuine actions of the chief are mentioned by his own historians, with a modesty and conciseness that is no bad argument of the truth, and with a particularity of time and place that is a good evidence of the facts. They are noticed by men, whom the death of the hero had exempted from all temptation to flattery: they are recited by persons, whom a proximity to the time had precluded from all possibility of mistake: and they are attested by the best historical authority, writers who lived cotemporary with him, authors who conversed with his warriors, and historians that wrote within a few years after him. He is spoken of as the honourable father of the British heroes by the aged Llomarch, a writer actually cotemporary with him, and some time resident at his court. One of his greater actions is incidentally recorded by Taliessin, an historical bard living under Maelwn Gwined, who was a sovereign among the Britons in the days of Arthur, Gildas, and Llomarch. Another of his considerable exploits is casually intimated by Myrdhin Wyhlt or Merlinus Caledonius, who complains of the severe treatment which he himself received from Rydderch Hael, a king cotemporary with Urien Reged, and engaged with him in a war against the Saxons on the death of Ida in 560. And all his actions are particularly recited by Nennius.

"In the *Historia Britonum* of this last author, Arthur's victories over the Saxons are thus recorded. The first battle was fought at the mouth of the river which is denominated *Glem*. The second, third, fourth, and fifth, were upon another river, that is called *Duglas*, and lies in the region *Linuis*. The sixth was on a stream, which bears the appellation of *Bassar*. The seventh was in the wood of *Celidon*, that is, in *Cat Coit Celidon*. The eighth was at *Castle Gunnion*. And the ninth was at the city of the *Legion*. The tenth was on the bank of the river *Ribroit*; the eleventh at the hill *Agned Cathregonion*; and the twelfth at *Mount Badon*. These twelve battles of Arthur are described to us in the same manner as *Vortimer's* three. Only the general facts are mentioned, and only the common names of places are recited, in both. And

Arthur.  
History of  
Manchester,  
vol. ii. 4to.  
edit. p. 31.  
et seq.



Arthur. from the whole air and aspect of the history, the remarkable conciseness with which the notices are given, and the great ease with which the places are pointed out, the detail appears to have been drawn up at the distance only of a few years from the transactions, and when these little references were sufficiently understood."

Ibid.  
P. 34.—64.

Mr Whittaker proceeds to ascertain the scenes of Arthur's battles; after which he gives a relation of them with a surprising particularity. A severe critic might be apt to say, as Dr Kippis observes, that it requires all our faith in the author's judgment, as well as in his ingenuity and learning, not to suspect that he sometimes allows too much scope to fancy and conjecture. However, the whole of what he hath advanced is singularly curious, and deserves peculiar attention and consideration. And no one can help admiring the penetration with which he hath formed such a regular detail of facts, from the combined aid of history, romance, and tradition. According to Mr Whittaker, Arthur's principal exploits were against the northern Saxons, whilst he was only prince of the Silures, and Ambrosius was the dictator or pendragon of the Britons. "In a series probably of five campaigns, and in a succession certainly of eleven victories, this great commander had repelled the Saxons from the north of Flavia, dislodged them from all Maxima, and dispossessed them of all Valentia. And these were successes so unchequered with misfortunes, so great in themselves, and so beneficial to the public, that the name of Arthur claims the first rank in the list of military, and the better one of patriot, heroes." The twelfth battle of Arthur was fought in the south of England, after he was elected to the pendragonship, against Cerdic the Saxon. "This (says Mr Whittaker) was a most extraordinary victory, and completes the circle of Arthur's military glories." In the author's account of this prince's conduct in peace, he asserts, that "Arthur saw that an appointment was wanted, which should at once be a more regular and more honourable signature of merit; by the certainty of the honour and the greatness of the dignity, call out all the worth of all the worthy in the nation; and collect it round the throne of the pendragon. Accordingly he established a military order. It was the first that had ever been instituted in the island; and it has since been imitated by all the nations on the continent. By means of this association, Arthur raised among the provincials a general glow of ingenuous heroism, the first spirit of chivalry that ever appeared in Europe; that manly and honourable gallantry of soul, which has made him and his worthies the subject of romantic histories over all the west of it. By this, and this alone, could he have been what history represents him, the Reverend Father of the British Heroes in general, even to the conclusion of the sixth century, and nearly the middle of the seventh. The order naturally survived its founder. And the members of it were denominated the Warriors of Arthur, though the persons were born half a century after his death." Mr Whittaker goes on to inform us, that under the prudent management of Arthur for 20 years together, a fair prospect dawned upon the Britons, and long scenes of future glories opened to their imaginations. "But the gay vision was destroyed at once by the commence-

ment of a civil war. Many towns still remained in ruins, the memorial of the former wars, and the disgrace of the present. The diffused spirit of chivalry was turned upon the nation, and heroism became the tool of dissension. And the dreadful combination of civil evils was begun and consummated, at once, by the death of the renowned Arthur in battle. Thus died the incomparable hero in 542."

Arthur's  
Seat.

To these observations it may not be improper to add the following account of the discovery of Arthur's tomb, which appears to be tolerably well authenticated. Henry II. who was the first of the Plantagenet line, being, in the last year of his reign, at Pembroke, and hearing there a Welsh bard singing to his harp the story of Arthur, concluding with an account of his death, and burial in the churchyard of Glastonbury between two pyramids; the king instantly gave orders that the matter should be inquired into, and the body dug up. This was done as the king directed; and at the depth of seven feet was found a vast stone, whereon was fastened a leaden cross, with this inscription on the inside: *Hic Jacet Sepultus Inclitus Rex Arturius in Insula Avalonia*; i. e. "Here lies the famous King Arthur, buried in the isle of Avalon." Digging still lower, they found the king's body in the trunk of a tree, his beautiful queen lying by him, with long flowing hair, in colour bright as gold, which however sunk into dust when touched. The king's bones were very large sized; and in his skull there were ten wounds or more, all cicatrized, except that of which he died. This discovery was made in the year 1189, as Giraldus Cambrensis tells us, who saw these bones, and examined the whole matter carefully. There was also a table containing this story, set up in the monastery of Glastonbury, and the leaden cross with the inscription remained there till the dissolution of the monastery, where it was seen by the great antiquary Leland, but what is become of it since does not appear.

Of the different places above alluded to as being distinguished by our hero's name, and serving to evince his existence, the following may be mentioned as one of the principal.

ARTHUR'S SEAT, a high hill in the neighbourhood of Edinburgh, said to have been so denominated from a tradition that King Arthur surveyed the country from its summit, and had also defeated the Saxons in its neighbourhood. This hill rises by a steep and rugged ascent, till it terminates in a rocky point near 700 feet high from the base, being more than double the height of the cross on the top of St Paul's, London, which is 340 feet. On the south it is in many parts a perpendicular rock, composed of basaltic pillars, regularly pentagonal or hexagonal, about three feet in diameter, and from 40 to 50 feet in height. Contiguous upon the west, and partly connected with it at the base, are Salisbury Crags, of inferior height, but exhibiting an appearance equally singular and grand. They present to the city an awful front of broken rocks and precipices, forming a sort of natural amphitheatre of solid rock; and backward from the craggy verge above, the hill forms an extensive irregular slope, the surface affording pasture to numerous flocks of sheep. The crags, besides ores, spars, rock plants, and here and there, it is said, some precious stones, afford an inexhaustible supply of stone for paving the streets



Artichoke,  
Article.

Articulate  
Artificer.

streets and other purposes. In quarrying, a part of the crags has been worn down into a spacious shelf, having the appearance of a lofty terrace, and stretching a considerable length. From hence is a near and distinct prospect of the city, with its environs and the adjacent country. But from the pinnacle called Arthur's Seat the view is more noble and extensive. The traveller may here sit and survey at his ease the centre of the kingdom, besides having a complete view of Edinburgh and its castle, on which he looks down as if seated among the clouds. In a word, the German ocean, the whole course of the Forth, the distant Grampians, and a large portion of the most populous and best cultivated part of Scotland, form a landscape sublime, various, and beautiful.

The denomination of this hill, derived as above, has been adduced as an argument against those who dispute the existence of the British Arthur. That derivation, however, though probable, is not without uncertainty. For *Arthur's Seat* is said to be derived, or rather corrupted, from *Ard Seir*, a "place or field of arrows," where people shot at a mark: And this not improperly; for among these cliffs is a dell or reclusive valley, where the wind can scarcely reach, now called the *Hunter's Bog*, the bottom of it being a morass. The adjacent crags are supposed to have taken their name from the earl of *Salisbury*, who in the reign of Edward III. accompanied that prince in an expedition against the Scots.

**ARTICHOKE.** See *CINARA*, *BOTANY Index*.

**ARTICLE**, a clause or condition of a contract, treaty, &c. It is also a small part or division of a discourse, book, or writing, &c.

**ARTICLE of Death**, the last pangs or agony of one just expiring.

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

The thirty-nine articles were founded, for the most part, upon a body of articles compiled and published in the reign of Edward VI. They were first passed in the convocation, and confirmed by royal authority in the year 1562. They were afterwards ratified anew in the year 1571, and again by Charles I. The law requires a subscription to these articles of all persons ordained to be deacons or priests, 13 Eliz. cap. 12. of all clergymen inducted to any ecclesiastical living, by the same statute, and of licensed lecturers and curates, 13 Eliz. cap. 12. and 13 and 14 Ch. II. cap. 4. of the heads of colleges, of chancellors, officials, and commissaries, and of schoolmasters. By 1 Will. III. cap. 18. dissenting teachers are to subscribe all, except the 34th, 35th, and 36th, and part of the 20th (and in the case of Anabaptists, except also part of the 27th); otherwise they are exempted from the benefits of the act of toleration.

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

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

The Latins have no articles; but the Greeks, and

most of the modern languages, have had recourse to them, for fixing and ascertaining the vague signification of common and appellative names.

The Greeks have their *ὁ*, the eastern tongues their *be emphaticum*; the Italians their *il, lo, and la*. The French their *le, la, and les*. The Germans their *der, das, dat*.

The English also have two articles, *a* and *the*; which being prefixed to substantives, apply their general signification to some particular things.

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

Articles are of great service in a language, as they contribute to the more neat and precise expressing of several properties and relations, which must otherwise be lost. And hence one great advantage of such languages over the Latin, in that the article being either expressed or left out, makes an alteration in the sense, which the Latins cannot distinguish. Thus when the devil said to our Saviour, *Si tu es Filius dei*, it may either be understood, "if thou art a son of God," or, "if thou art *the* son of God." The Italians even prefix articles to proper names, which do not naturally need any, because they themselves signify things individually. Thus they say, *il Ariosto, il Tasso, il Petrarca*. Even the French join the article to the proper names of kingdoms, provinces, &c. as *la Suede, la Normandie*. And we likewise annex it to the names of certain mountains and rivers; as, *The Rhine, the Danube, the Alps, &c.*

**ARTICULATE SOUNDS**, are such sounds as express the letters, syllables, or words of any alphabet or language: such are formed by the human voice, and by some few birds, as parrots, &c.

**ARTICULATION**, or **JOINTING**, is the joining of bones together. See *ANATOMY*.

**ARTICULATION**, in *Botany*, is the connexion of parts that consist of joints or knees, such as the pods of French honeyuckles, which when ripe divide into so many parts as there are knees or joints; also those parts of plants which swell into nodes or joints, and which usually send forth branches.

**ARTIFICER**, a person whose employment it is to manufacture any kind of commodity, as in iron, brass, wool, &c. such are smiths, brasiers, carpenters, &c. The Roman artificers had their peculiar temples, where they assembled and chose their own patron, to defend their causes: they were exempted from all personal services. Taruntenus Paternus reckons 32 species of artificers, and Constantine 35, who enjoyed this privilege. The artificers were incorporated into divers colleges or companies, each of which had their tutelary gods, to whom they offered their worship. Several of these, when they quitted their profession, hung up their tools, a votive offering to their gods. Artificers were held a degree below merchants, and *argentarii* or money-changers, and their employment more sordid. Some deny, that in the earliest ages of the Roman state artificers were ranked in the number of citizens: others, who assert their citizenship, allow that they were held in contempt, as being unfit for war, and so poor that they could scarcely pay any taxes. For which reason they were not entered among the citizens in the censor's books; the design of the census being only to

see



Artificial  
Artillery.

see what number of persons were yearly fit to bear arms, and to pay taxes towards the support of the state. It may be added, that much of the artificers business was done by slaves and foreigners, who left little for the Romans to mind but their husbandry and war. By means of the arts, the minds of men are engaged in inventions beneficial to the whole community; and thus prove the grand preservative against the barbarism and brutality, which ever attend on an indolent and inactive stupidity.

By the English laws, artificers in wool, iron, steel, brass, or other metal, going out of the kingdom into any foreign country without license, are to be imprisoned three months, and fined in a sum not exceeding one hundred pounds. And such as going abroad, and not returning on warning given by our ambassadors, &c. shall be disabled from holding lands by descent or devise, from receiving any legacy, &c. and be deemed aliens. Stat. 5. Geo. I. cap. 27. By 23 Geo. II. cap. 13. § 1. penalty is also inflicted on seducing artificers to go abroad. Ramazini has a treatise on the diseases of artificers.

**ARTIFICIAL**, in a general sense, denotes something made, fashioned, or produced by art, in contradistinction from the productions of nature.

**ARTIFICIAL** is also frequently used for factitious. Thus we have artificial sal ammoniac, artificial borax, &c.

**ARTIFICIAL Fire-works** are compositions of inflammable materials, chiefly used on solemn occasions, by way of rejoicing. See **PYROTECHNY**.

**ARTIFICIAL Lightning**. See **ELECTRICITY** and **LIGHTNING**.

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

**ARTIFICIAL Magnets**. See **MAGNETS**.

**ARTIGI**, indeclinable, (Pliny); *Artigis*, (Ptolemy); a town of the Turduli, in Bætica. Now *Alabama*.

**ARTILLERY**, in its general sense, denotes the offensive apparatus of war, particularly of the missile kind. Among the French the term was anciently appropriated to **ARCHERY**. In its modern acceptation it signifies fire-arms, mounted on their carriages and ready for action, with their balls, their bombs, their grenades, &c.

If we take the term in a more extensive meaning, it includes the powder, the matches, instruments for fire-works, the utensils of ordnance, the machines which facilitate their motion and transport them, the vehicles over which they traverse rivers, every thing necessary to them, and all that enters into the form of a train of artillery.

The same word still farther extended in its meaning, likewise comprehends the men destined for the service of the *artillery*; the people who provide the artillery with materials and implements when engaged, the cannoniers, the bombardiers, the officers of every rank, and engineers of every kind.

By *artillery* is likewise understood the science which the officers of artillery ought to possess. This science teaches to know the nature of all the materials and ingredients which enter into the composition and the

structure of every thing relative to the artillery, such as nitre, sulphur, charcoal; the properties of air and fire; the composition and preparation of gunpowder; the materials for fire-works; the construction, proportions, &c. of the different warlike machines; the arrangement, movement, and whole management, of cannon, &c. in the field or in sieges, in such a manner, that each of them, according to the length of its tube and the diameter of its bore, may be situated in the best place and at the properest distance for execution, and that the whole train taken together may reciprocally assist and support each other with the greatest advantage.

Artillery has undergone many changes from its origin to the present time. The artillery of the ancients were the catapulta, the balistæ, the different kinds of slings, &c. In latter ages, the Franks used the hatchet as a missile weapon, throwing it in the same manner as the Americans do theirs called the *tomahawk*. The Gascons and Genoese were excellent cross-bow men. The Swifs owed their victories to their strength and skill in the use of the pike, halberd, and espadon or two-handed sword; and the victories of Cressy, Poitiers, and Agincourt, will occasion the valour and skill of the English archers to be transmitted down to latest posterity. See **ARCHERY**.

The chevalier Folard was extremely attached to the ancient machines first mentioned, and seemed even to prefer them to our fire-arms: an opinion which must appear not a little extraordinary from such a person. Father Daniel might well be mistaken in the comparison which he made between the effects of ancient and modern artillery, and in his conclusion that the latter was of little use: the situation of this good father removed him from the scenes of war and the opportunities of military experience. But it is astonishing, that one so learned in the military art as the commentator of Polybius, who had ocular demonstration of the success of modern artillery, should have declared so violently against it. Whatever be the case with these authors and their maxims, it may be asserted, that cannon is one of the most singular discoveries which have been made amongst men; and by little and little it has changed the whole art of war, and of consequence influenced the whole system of policy in Europe. The era of artillery is dated from the battle of Cressy in 1346, because it is only from that day that cannons were mentioned in battle. Edward III. of England successfully employed some pieces of artillery placed in the front of his army. The invention of artillery was then known in France as well as in England; but probably Philip VI. marched with so much hurry and precipitation to attack his enemy, that he left his cannon as useless encumbrances behind him. The ignorance of that age in mechanical arts considerably retarded the progress of artillery; and that of which they were then possessed was so unwieldy and imperfect, that they could not possibly discern its importance and efficacy in practice.

After the invention of gunpowder, the Spaniards were the first who armed part of their foot with muskets and harquebusses, and mixed them with the pikes. In this they were soon imitated by most other nations; though the English had not entirely laid aside their favourite weapon the long bow, and generally taken to the

Artillery.



Artillery. the use of fire arms, during the reign of Queen Elizabeth.

The first muskets were very heavy, and could not be fired without a rest: they had matchlocks, and barrels of a wide bore, that carried a large ball and charge of powder, and did execution at a great distance. The musketeers on a march carried only their rests and ammunition; and had boys to bear their muskets after them, for which they were allowed great additional pay. They were very slow in loading, not only by reason of the unwieldiness of the pieces, and because they carried the powder and balls separate, but from the time it took to prepare and adjust the match; so that their fire was not near so brisk as ours is now. Afterwards a lighter kind of matchlock musket came into use; and they carried their ammunition in bandeliers, which were broad belts that came over the shoulder, to which were hung several little cases of wood covered with leather, each containing a charge of powder; the balls they carried loose in a pouch, and they had also a priming horn hanging by their side. Matchlocks were, about the beginning of this century, universally disused in Europe, and the troops were armed with firelocks; to which, much about the same time, the bayonet being added, pikes also were laid aside; which latter change, whether it was for the better or not, is a point that still admits of dispute among the best military writers, who are divided in their opinions about it, though most of them disapprove of it.

The old English writers call those large muskets *calivers*; the harquebus was a lighter piece, that could be fired without a rest. The matchlock was fired by a match, fixed by a kind of tongs in the serpentine or cock, which by pulling the trigger was brought down with great quickness upon the priming in the pan, over which there was a sliding cover, which was drawn back by hand, just at the time of firing. There was a great deal of nicety and care required to fit the match properly to the cock, so as to come down exactly true on the priming, to blow the ashes from the coal, and to guard the pan from the sparks that fell from it: a great deal of time was also lost in taking it out of the cock, and returning it between the fingers of the left hand, every time that the piece was fired; and wet weather often rendered the matches useless. However, most writers allow that they were very sure, and less apt to miss fire than the firelock.

The firelock is so called, from producing fire of itself, by the action of the flint and steel. The most ancient invention of this sort is the wheel lock, which we find mentioned in Luigi Collado's Treatise of Artillery, printed at Venice, 1586, as then lately invented in Germany. This sort of lock was used till within these hundred years, especially for pistols and carabines. It was composed of a solid steel wheel, with an axis, to which was fastened a chain, which, by being wound round it drew up a very strong spring; on pulling the trigger, the spring acting, whirled the wheel about with great velocity, and the friction of the edge of it (which was a little notched) against the stone produced the fire; the cock was made so as to bring the stone upon the edge of the wheel, part of which was in the pan, and touched the priming; they used any common hard pebble for that purpose, which served as well as flint.

These locks were inconvenient, took time to wind up (or span, as they termed it), and sometimes would not go off; an instance of which may be seen in Ludlow's Memoirs. Artillery.

When the firelock, such as we now use, was invented, we cannot ascertain; it is called by writers of about the middle of the last century, a *snaphane* or *snaphance*, which being the Dutch word for a *firelock*, seems to indicate that it is a Dutch invention, and that we took it from them. But Ward, in his Animadversions of War, printed in 1639, p. 502, after describing the exercise of the firelock, pistol, and carabine (by which he means the wheel-lock), says, that as most of our pieces go with English locks, which differ from firelocks, he shall add the method of handling them; and then gives the exercise of the snaphane carabine; by which it appears, that there was little or no difference between that and the pieces now in use. The more modern writers call it a *fusée*, from the French word *fusil*; whence the name of fusileers is still continued to several of our regiments, which were the first that were armed with them on the disuse of matchlocks.

They used the musket and rest in England so late as the beginning of the civil wars, as may be seen in Col. Bariffe's Young Artillery Man, printed at London, 1643.

Figuera, in his embassy in 1518, relates, that the Persians would neither make use of infantry nor of artillery, because by them the impetuosity of attack and the facility of retreat were equally encumbered and retarded: in these expedients alone their address and their glory consisted. This method of advancing and recalling is widely different from the present conduct of war, as the artillery in armies is now prodigiously multiplied, and must be transported to every place where any body of troops whatever is destined to operate.

The length and diameter of cannon has been much diminished, which must likewise proportionably diminish their weight. It is by long practice and experience that they have discovered how much might be deduced from their magnitude in both these respects with propriety, without hurting the grand effects which, on some occasions, it is necessary they should produce, by rendering them more easy to be wielded, which was the advantage pursued by lessening their size. See further the articles CANNON, GUNNERY, and PROJECTILES.

Improvements, however, are still making, and will probably long continue to be made, in these ignivomous machines that mock the thunder, which, though they seem to be invented for the destruction of the human race and the subversion of empires, have yet by their effects rendered war less savage and less sanguine; political alliances have been more successfully conciliated among all nations, conquests are become less frequent and less rapid, and successes in war have been more easily reduced to calculation.

The change introduced in the military art by the modern artillery, Dr Smith observes, has enhanced *Wealth of Nations*, vol. iii. greatly both the expence of exercising and disciplining any particular number of soldiers in time of peace, and that of employing them in time of war. Both their arms and their ammunition are become more expensive. A musket is a more expensive machine than a javelin <sup>p. 70.</sup>



Artillery. or a bow and arrows; a cannon or a mortar, than a balista or a catapulta. The powder which is spent in a modern review is lost irrecoverably, and occasions a very considerable expence. The javelins and arrows which were thrown or shot in an ancient one, could easily be picked up again, and were besides of very little value. The cannon and the mortar are not only much dearer, but much heavier machines than the balista or catapulta, and require a greater expence, not only to prepare them for the field, but to carry them to it. As the superiority of the modern artillery too over that of the ancients is very great, it has become much more difficult, and consequently much more expensive, to fortify a town so as to resist even for a few weeks the attack of that superior artillery.

In modern war the great expence of fire arms gives an evident advantage to the nation which can best afford that expence; and consequently, to an opulent and civilized, over a poor and barbarous nation. In ancient times, the opulent and civilized found it difficult to defend themselves against the poor and barbarous nations. In modern times the poor and barbarous find it difficult to defend themselves against the opulent and civilized. The invention of fire arms, an invention which at first sight appears to be so pernicious, is certainly favourable both to the permanency and to the extension of civilization.

It has to many appeared matter of surprize, that the battles of the ancients should be described with an order, perspicuity, and circumstantial minuteness, which are not to be found in the military writers of modern times. Scholars have endeavoured to explain this difference by observing the immense disproportion, in point of dignity and abilities, between the military historians of modern Europe and those of Greece and Rome. But the difficulty will be better solved, Dr Gillies thinks, by reflecting on the changes introduced into the art of war by the change of artillery; which in military operations, form the pivot on which the whole turns. 1. From the nature of fire arms, modern battles are involved in smoke and confusion. 2. From the same cause, modern armies occupy a much greater extent of ground, and begin to act at much greater distances: which renders it more difficult to observe and ascertain their manœuvres. 3. The immense train of artillery, ammunition, &c. required in the practice of modern war, gives a certain immobility to our armies, which renders it impossible to perform, without great danger, those rapid evolutions in fight of an enemy, which so often decided the battles of the ancients. With us, almost every thing depends on the judicious choice of ground, a matter requiring great military genius, but not admitting the embellishments of historical description.

In the battles of the Greeks and Romans, the extraordinary disproportion between the numbers slain on the side of the victors and the vanquished has been observed as another remarkable circumstance. But this necessarily resulted from the nature of their arms. Their principal weapons being not missile, but manual, armies could not begin to act till they had approached so near to each other, that the conquered found themselves cut off from all possibility of retreat. In modern times, such consequences seldom take place. The use of fire arms (which often renders the action itself more bloody,

furnishes the defeated party with various means of retreating with considerable safety. The sphere of military action is so widely extended in modern times, that before the victors can run over the space which separates them from the vanquished, the latter may fall back, and proceed with little loss beyond their reach; and should any village, hedge, ravine, &c. be found in their way, may often check the ardour of the pursuers. Upon these considerations, the invention of gunpowder and modern artillery may be said to have saved the effusion of human blood. Equestrian engagements (since the principles on which cavalry act remain nearly the same in every age) are still distinguished by similar circumstances to those which appear so extraordinary in the battles of antiquity.

*ARTILLERY Park*, the place in the rear of both lines in an army, for encamping the artillery, which is drawn up in lines, of which one is formed by the guns; the ammunition waggons make two or three lines, 60 paces behind the guns, and 30 distant from one another; the pontoons and tumbrils make the last line. The whole is surrounded with a rope which forms the park: the gunners and matrosses encamp on the flanks; and the bombardiers, pontoon men, and artificers, in the rear.

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

*ARTILLERY Company*, a band of infantry, consisting of 600 men, making part of the militia or city guard of London.

**ARTIST**, in a general sense, a person skilled in some art. Mr Harris defines an artist to be, "A person possessing an habitual power of becoming the cause of some effect, according to a system of various and well approved precepts." See **ART**.

We are told\* of a privilege granted at Vicenza to artists, like that of *clergy* in England: in virtue thereof criminals adjudged to death save their lives if they can prove themselves the most excellent and consummate workmen in any useful art. This benefit is allowed them *in favorem artis*, for the first offence, except in some particular crimes, of which coining is one; for here the greater the artist, the more dangerous the person.

**ARTIST** (*Artista*), in an academical sense, denotes a philosopher or proficient in the faculty of arts.

In the early ages of universities, the seven liberal arts completed the whole course of study, or philosophy, as it is called: whence the masters of this faculty were denominated *Artists*. What they understood by the liberal arts used to be summed up in the following Latin verse:

*Lingua, Tropus, Ratio, Numerus, Tonus, Angulus, Astræ.*

**ARTIST** is more peculiarly used, by Paracelsus and other adepts, for a chemist or alchemist. We find frequent mention, in authors of this class, of Elias Artista, or Elias the artist, who is to come some time before the dissolution of the world, and restore and make perfect all arts and sciences, but especially the gold-making art; and usher in a truly golden age, or millennium. The lower and meaner things in this sublime art, Paracelsus observes, God has permitted to be already discovered; but for the greater and more im-

portant



Artobriga ||  
Aruba. } portant matters, as the transmutation of other metals into gold, they are reserved to the coming of Elias the artist.

ARTOBRIGA, a town of Vindelicia (Ptolemy): Now *Altzburg*, in Bavaria, on the Danube, below Ingolstadt (Aventinus): but Cluverius supposes it to be *Lebenau*, on the Saltzbach, below Lauffen, in the archbishopric of Saltzburg.

ARTOCARPUS, the BREAD-FRUIT TREE. See BOTANY Index.

ARTOIS, a late province of France, and one of the finest and most fertile in the whole kingdom. Formerly it was one of the 17 provinces of the Netherlands, but now belongs entirely to France, and is included in the department of the Straits of Calais. The names of *Artois*, and *Arras* its capital, are derived from the *Atrebates*, a people of Gallia Belgica, mentioned by Julius Cæsar. Its greatest length from north to south is about 24 leagues, and its breadth about 12, being bounded to the south and west by Picardy, to the east by Hainault, and to the north by Flanders. A considerable trade is carried on in the province in grain, flax, hops, wool, and linen cloth. The most considerable places in Artois are, Arras the capital, Bapaume, Bethune, St Venant, and St Omer.

ARTOLICA, in *Ancient Geography*, a town of the Salassii in Gallia Cispadana, at the foot of the Alps: now called *la Tuile* by the inhabitants, a hamlet of Savoy, in the duchy of Aouft, at the foot of Mount St Bernard the Lefs.

ARTOTYRITES, a Christian sect, in the primitive church, who celebrated the eucharist with bread and cheese, saying, that the first oblations of men, were not only of the fruits of the earth, but of their flocks. The word is derived from *αγρος*, bread, and *τυρος*, cheese.

The Artotyrites admitted women to the priesthood and episcopacy; and Epiphanius tells us, it was a common thing to see seven girls at once enter into their church, robed in white, and holding a torch in their hand; where they wept, and bewailed the wretchedness of human nature, and the miseries of this life.

ARUA, in *Ancient Geography*, a town of Bætica, in the jurisdiction of the Conventus Hispalensis: now *Alicia*, a citadel of Andalusia, on the Bætis, or Guadalquivir, seven leagues above Seville.

ARVALES FRATRES, in *Roman Antiquity*, a college of 12 priests, instituted by Romulus, and chosen out of the most noble families, himself being one of that body: they assisted in the sacrifices of the ambrosia annually offered to Ceres and Bacchus, for the prosperity of the fruits of the earth; when they wore on their heads crowns made of ears of corn. The original of this institution was as follows: Acca Laurentia, Romulus's nurse, was accustomed once a-year to make a solemn sacrifice for a blessing on the fields, her 12 sons always assisting her in the solemnity; but at last losing one of her sons, Romulus offered himself to supply his place, and gave this small society the name of *Arvales fratres*. This order was in great repute at Rome: they held the dignity for life, and never lost it upon account of imprisonment, banishment, or any other accident.

ARUBA, a small island on the coast of Terra Fir-

ma, subject to the Dutch, and situated in W. Long. 69. 30. N. Lat. 12. 30.

ARUCI, in *Ancient Geography*, a town of the Celtici, in the north of Lusitania, (Antonine, Inscription); called also *Aruci Novum*, to distinguish it from the following: Now supposed to be *Moura*, a small city of Portugal, near the confluence of the Ardila and Guadalquivir.

ARUCI VETUS, in *Ancient Geography*, a small city of the Turdetani, in Bætica, (Ptolemy); now *Aroche*, a hamlet of Andalusia, on the confines of Portugal and Estremadura, on the river Gama, seven leagues to the east of Aruci Novum or Moura. From it a mountain, in its neighbourhood, takes the name *Arucitanus*. Now *la Sierra de Aroche*.

ARUCIA, in *Ancient Geography*, a town of Illyria, in the inland parts of Liburnia, (Ptolemy). Now *Bregna*, according to some; but *Ottoschaitz*, according to others; a citadel of Morlachia.

ARVERNI, an appellation early used for the capital of the Arverni, according to the custom of the latter ages of naming towns from the people; it was formerly called *Nemossus*, (Strabo). The *Arverni*, a brave and ancient people, and one of the most powerful nations of Gaul, claimed affinity with the Romans, as descendants from Antenor, (Lucan): and after their conquest by the Romans, their ancient liberty was preserved to them on account of their bravery, (Pliny). Above 1000 years ago the town was called *Clarus Mons*, from its situation, (Valesius.) Now *Clermont*, in Auvergne. E. Long. 3. 20. N. Lat. 45. 42.

ARVIL SUPPER, a feast or entertainment made at funerals, in the north part of England. Arvil bread is the bread delivered to the poor at funeral solemnities: and *arvil*, *arval*, *arfal*, are used for the burial or funeral rites; as,

Come, bring my jerkin, Tibb, I'll to the *arvil*;  
Yon man's dea scuy seoun, it makes me *marvil*.

*Yorksb. Dial.* p. 58.

ARVIRAGUS, an ancient British king who flourished in the time of the emperor Domitian. He gained a complete victory over Claudius: but being soon after besieged in the city of Winchester, he made a treaty with the Romans, and married the emperor's daughter Genuiffa. This monarch lived to a good old age: he confirmed the ancient laws, enacted new ones, and liberally rewarded persons of merit.

ARUM, WAKEROBIN, or CUCKOW-PINT. See BOTANY Index.

ARUNDA, a town of Hispania Bætica, on the Anas, or Guadiana, (Ptolemy, Pliny): Now said to be *Ronda*, in the province of Granada, on the confines of Andalusia. W. Long. 5. 40. Lat. 36. 26.

ARUNDEL, THOMAS, archbishop of Canterbury in the reigns of Richard II. Henry IV. and Henry V. was the second son of Robert earl of Arundel and Warren, and brother of Richard earl of Arundel, who was beheaded. At 22 years of age, from being archdeacon of Taunton he was raised to the bishopric of Ely, the 6th of April 1375, in the reign of Edward III. He was a great benefactor to the church and palace of this see; among other donations he gave a curious table of massy gold, adorned with precious stones,



stones, which had been given to Prince Edward by the king of Spain, and sold by the latter to Bishop Arundel. In 1386, he was appointed lord chancellor of England; two years after, he was translated to the see of York; and, in 1396, was advanced to the archiepiscopal see of Canterbury, when he resigned the chancellorship. This was the first instance of the translation of an archbishop of York to the see of Canterbury. Scarcely was he fixed in this see, when he had a contest with the university of Oxford about the right of visitation. The affair was referred to King Richard, who determined it in favour of the archbishop. At his visitation in London, he revived an old constitution, by which the inhabitants of the respective parishes were obliged to pay to their rector one halfpenny in the pound out of the rent of their houses. In the second year of his translation, a parliament being held at London, the commons with the king's leave impeached the archbishop, together with his brother the earl of Arundel, and the duke of Gloucester, of high treason. The archbishop was sentenced to be banished, and within forty days to depart the kingdom on pain of death. He retired first to France; and then to the court of Rome, where Pope Boniface IX. gave him a kind reception. About this time the duke of Lancaster (afterwards Henry IV.) was in France, having been banished by King Richard. The nobility and others, tired with the oppressions of Richard, solicited the duke to take the crown. This their request they drew up in a letter, and sent it over by faithful messengers to Archbishop Arundel, desiring him to be their advocate on this occasion with the duke. The archbishop, being a fellow sufferer, gladly accepted the office; and went with the messengers to the duke at Paris, where they delivered the letters from the nobles and commons of England, and the archbishop seconded them with the best arguments he could invent. The inviting offer, after some objections which were easily obviated, the duke accepted; and upon his accession to the throne, Arundel, who had returned with him to England, was restored to his see. In the first year of this prince's reign, Arundel summoned a synod which sat at St Paul's. The next year the commons moved that the revenues of the church might be applied to the service of the public; but Arundel opposed the motion with such vigour, that it was thrown aside. In the year 1408, Arundel began to exert himself against the Lollards, or Wickliffites; and his zeal for suppressing that sect carried him to several unjustifiable severities against the heads of it, particularly against Sir John Oldcastle and Lord Cobham. He also procured a synodical constitution, which forbade the translation of the Scriptures into the vulgar tongue. This prelate died at Canterbury, Feb. 20. 1413, of an inflammation in his throat, with which he was seized (as it is pretended) whilst he was pronouncing sentence upon Lord Cobham. The Lollards asserted this to be a judgment from God; and indeed Bishop Goodwin speaks in the same manner, saying, "He who had withheld from the people the word of God, the food of the soul, by the just judgment of God had his throat so closed, that he could not speak a single word, nor swallow meat or drink, and was so starved to death." He was buried in the cathedral church of Canterbury, near the west end, under a monument erected by himself in his lifetime.

To this church he was a considerable benefactor; for he built the lantern-tower and great part of the nave: gave a ring of five bells, called from him *Arundel's ring*; several rich vestments, a mitre encased with jewels, a silver gilt crozier, and two golden chalices.

ARUNDEL, a borough and market town in Suffex, seated on the north-west side of the river Arun, over which there is a bridge. It had a harbour, wherein a ship of 100 tons burden might ride; but the sea had ruined it so far, that, in 1733, an act passed for repairing it, and for erecting new piers, locks, &c. The castle, which gives the title of *earl* to its possessors, is seated on the east of the Tame, and is reputed to be a mile in compass. It sends two members to parliament; and is 55 miles south-west-by-south of London, and 10 miles east of Chichester. Arundel is the premier earldom in England, belonging to the illustrious family of Norfolk; and is the only title in England that goes along with the lands. W. Long. o. 25. N. Lat. 50. 45.

ARUNDEL Oil, in the *Materia Medica*. At Bombay, Gombroon, and Surat, in the East Indies, there grows a tree which bears a nut enclosed in a rough husk, which resembles much the horse-chestnut; and the kernel of the nut yields an oil by expression, which is of a purgative nature. A tea-spoonful of it is reckoned a dose. The tree goes by the name of the *arundel tree* at Bombay, and its oil by that of the *arundel oil*. Mr Sinclair, one of the surgeons belonging to the royal regiment of artillery, who was formerly surgeon to an East India ship, gave Dr Monro of London a small bottle full of this oil, which he said was much used for the cure of the dysentery in India, and that he had given it in four recent cases of dysentery with success. Dr Monro thinks it probable that this is the oil of the purging nuts mentioned in Dale's Pharmacologia, which are got from the tree called *lignum moluccense, pavana dictum, fructu avellanæ*, J. B. I. 342; and *pinus Indica, nucleo purgante*, C. B. 492; and the *palma Christi Indica*, Tournefort Mat. Med.

ARUNDELIAN MARBLES, OXFORD MARBLES, or PARIAN CHRONICLE, are ancient stones (as has been supposed), whereon is inscribed a chronicle of the city of Athens, engraven in capital letters in the island of Paros, one of the Cyclades, 264 years before Jesus Christ. They take their first name from Thomas earl of Arundel, who procured them out of the East, or from Henry his grandson, who presented them to the university of Oxford.

The Arundelian marbles, in their perfect state, contained a chronological detail of the principal events of Greece during a period of 1318 years, beginning with Cecrops, before Christ 1582 years, and ending with the archonship of Diognetus, before Christ 264. But the chronicle of the last 90 years is lost; so that the part now remaining ends at the archonship of Diotimus, 354 years before the birth of Christ; and in this fragment the inscription is at present so much corroded and effaced, that the sense can only be discovered by very learned and industrious antiquaries; or, more properly speaking, supplied by their conjectures.

This chronicle, and many other relicks of antiquity, real or pretended, were purchased in Asia Minor, in Greece, or in the islands of the Archipelago, by Mr William Petty, who in the year 1624 was sent by Thomas

Arundel,  
Arundel-  
lian.



Arundel-  
lian.

Thomas earl of Arundel for the purpose of making such collections for him in the east. They were brought into England about the beginning of the year 1619, and placed in the gardens belonging to Arundel house in London.

Soon after their arrival they excited a general curiosity, and were viewed by many inquisitive and learned men; among others by Sir Robert Cotton, who prevailed upon Selden to employ his abilities in explaining the Greek inscriptions. Selden and two of his friends, Patrick Young, or, as he styled himself in Latin, *Patricius Junius*, and Richard James, immediately commenced their operations, by cleaning and examining the marble containing the Smyranean and Magnesian league, and afterwards proceeded to the Parian chronicle. The following year Selden published a small volume in quarto, including about 39 inscriptions copied from the marbles.

In the turbulent reign of Charles I. and the subsequent usurpation, Arundel house was often deserted by the illustrious owners; and, in their absence, some of the marbles were defaced and broken, and others either stolen or used for the ordinary purposes of architecture. The chronological marble in particular, was unfortunately broken and defaced. The upper part, containing 31 epochas, is said to have been worked up in repairing a chimney in Arundel house.

In the year 1667, the Hon. Henry Howard, afterwards duke of Norfolk, the grandson of the first collector, presented these supposed remains of antiquity to the university of Oxford.

Selden's work becoming very scarce, Bishop Fell engaged Mr Prideaux to publish a new edition of the inscriptions, which was printed at Oxford in 1676. In 1732 Mr Maittaire obliged the public with a more comprehensive view of the marbles than either of his predecessors. Lastly, Dr Chandler published a new and improved copy of the marbles in 1763, in which he corrected the mistakes of the former editors; and in some of the inscriptions, particularly that of the Parian chronicle, supplied the *lacunæ* by many ingenious conjectures.

The Arundelian marbles have generally been regarded as a curious monument of antiquity. They were, however, discovered in some instances to be inconsistent with the most authentic historical accounts; Sir Isaac Newton and several other modern philosophers paid little or no regard to them; and of late their absolute authenticity has been severely questioned in an express dissertation upon the subject, entitled *The Parian Chronicle*. In this dissertation much ingenuity as well as judgment and a great extent of ancient learning are displayed. His doubts, the author observes, arise from the following considerations.

I. "The characters have no certain or unequivocal marks of antiquity." The  $\Pi$  and  $Z$ , which frequently occur in the form supposed to be the most ancient (viz. the perpendicular line of the  $\Pi$  on the right hand only half as long as that on the left, and the  $Z$  in the form of a prostrate  $\Xi$ ), are so well known, that any modern fabricator of a Greek inscription, which he intends to impose upon the world as a relick of antiquity, would most probably use them in preference to the more common and ordinary forms. But the letters in the Parian chronicle have no appearance of antiquity ex-

Arunde-  
lian.

cept this very equivocal one. They do not in the least resemble the Sigeian, the Nemean, or the Delian inscriptions, which are supposed to be of a more ancient date. They differ in many respects from the letters on the Marmor Sandvicense, which, according to the learned editor of that inscription, was engraved in the year before Christ 374. They bear no sort of resemblance to the characters on the Farnesian pillars, to those of the Alexandrian manuscript, or others of a later date. They seem, continues our author, to resemble perhaps more than any other the letters of the alphabet taken by Montfaucon from the Marmor Cyzicenum at Venice. They are plain and simple in their form, and such as an ordinary stonecutter of the present age would probably make, if he were employed to engrave a Greek inscription according to the alphabet now in use. The small letters intermixed among the larger have, in the opinion of our author, an air of affectation and artifice, rather than genuine antiquity; and he is persuaded, that the antiquity of an inscription can never be proved by the mere form of the letters, because the most ancient characters may be as easily counterfeited as those which compose our present alphabets.

That the learned reader may form a competent idea of the characters in the Parian chronicle, the author has compared them with those of other inscriptions, and given what is usually termed a *fac simile*.

In regard to several *archaisms*, as they are called, in this chronicle, and which our author specifies, he contends, that no conclusion can be drawn from them in favour of its antiquity. What reason could there be, he asks, for introducing these into the Parian chronicle? We do not usually find them in Greek writers of the same age, or even in those of the most early date. The reign of Ptolemy Philadelphus, with the 21st year of which the date of the chronicle coincides, was not an age of rude antiquity with respect to the Greek language; being only 130 years after the time of Xenophon and Plato, when the Greek was spoken and written in its utmost purity and elegance: and we can scarcely suppose, that even a stonecutter, in that refined age, would have been permitted to disgrace a superb and learned monument with such barbarisms as occur in the chronicle. The archaisms, however, he remarks, are not uniformly observed in this inscription. He adduces six instances of deviation; and adds, he is almost tempted to suspect, that  $\epsilon\mu$   $\Pi\alpha\rho\omega$ ,  $\epsilon\mu$   $\text{Μαγαδων}$ , and other pretended archaisms, are owing to a mere affectation of antiquity, or to a corrupted dialect and pronunciation in later ages. Those archaisms, our author acknowledges, appear on other marbles: but he thinks, that, for that very reason, they would naturally be adopted by the fabricator of a supposititious inscription; and the authenticity of those inscriptions in which they appear must be established before they can be urged in opposition to the present argument.

II. "It is not probable that the chronicle was engraved for *private use*."—Our author thinks it an impossible supposition that such an expensive and cumbersome work could have been executed by a private citizen, either for his own amusement, or for the benefit of his fellow citizens. In the first place, a long inscription could not be engraved in marble without such an expence as few learned Greeks were able to afford,



Arunde-  
lian.

Or, if its author, by an uncommon felicity, was able to erect such a literary monument, the scheme would have been useless and imprudent; as all the contents of the inscription might have been published more commodiously and effectually by the common mode of writing in use at that time.

A variety of arguments is adduced, illustrating the superiority of a manuscript to such an inscription as the chronicle, in a number of respects; and enforcing the improbability of its having ever been executed, either for public or private use. Much evidence from ancient history is likewise produced in support of the assertion, that the common mode of writing, in the reign of Ptolemy Philadelphus, was not on stones. It is not, however, necessary to prove, by the testimony of ancient authors, that books were written on parchment, or paper made of the Egyptian papyrus, or any such materials, before the date of the Parian chronicle. This is sufficiently evinced by the very existence of the writings of Moses, David, Solomon, and the Jewish prophets; the works of Homer, Hesiod, Anacreon, Pindar, Æschylus, Sophocles, Euripides, Herodotus, Hippocrates, Aristophanes, Thucydides, Xenophon, Plato, Demosthenes, Aristotle, &c.: And it is still more incontestably proved by the libraries which were collected in preceding ages, or about that time; such as those of Polycrates in Samos, Pisistratus and Euclides at Athens, Nicocrates in Cyprus, Euripides the poet, Aristotle the philosopher, Clearchus at Heraclea Pontica, and the most extensive and magnificent library of Ptolemy Philadelphus in Egypt, founded in or before the year 284, which in his time is said to have contained 100,000 volumes, and to have been enlarged by his successors to the amount of almost 600,000. Not long afterwards a library was founded at Pergamus by Attalus and Eumenes, which, according to Plutarch, contained 200,000. These are clear and decisive proofs that the common mode of writing in the time of Ptolemy Philadelphus was not on stones.

III. "The chronicle does not appear to have been engraved by *public authority*."

1. The first argument in support of this opinion is, that inscriptions of that kind usually being with a particular form; as, Η ΒΟΥΛΗ ΚΑΙ Ο ΔΗΜΟΣ, 'The senate and the people;' or thus, ΕΔΟΞΕΝ ΤΗ ΒΟΥΛΗ ΚΑΙ ΤΟΙΣ ΔΗΜΩΙ, 'It pleased the senate and the people, &c.' But the Parian chronicle begins in the manner of a private man, speaking of his own performance in the first person singular. This argument, our author remarks, cannot be much affected by observing, that the beginning of the inscription is obliterated; for it is necessarily implied by the words now remaining.

2. The facts and dates, which are mentioned in this chronicle, do not appear to have been extracted from any public records, or calculated to answer the purpose of authentic documents; as many eminent princes and magistrates, are passed over without notice; in several instances, the transactions of whole centuries are omitted; and the facts, chiefly specified, are not matters of general or national importance.

3. The Parian inscription is such a one as we can hardly suppose the magistrates or the people of Paros would have ordered to be engraved. Stately sepulchres, pillars, triumphal arches, and the like, were erected to

perpetuate the glory of eminent men. The remembrance of events in which nations were interested, the succession of princes, &c. were preserved in the same manner. Leagues, decrees, and laws, were likewise engraved on marble or brass, and fixed to a pillar, the walls of a temple, or other public buildings; because such inscriptions were designed for the inspection of the people, as they essentially concerned their conduct, their property, their liberty, or their lives. But, our author asks, for whom could the chronicle of Paros be intended? It contains no encomiums of any of the patriots, the heroes, or the demigods of the country, no decrees of the magistrates, no public records, no laws of state. On the contrary, it is a work of mere speculation and learning, in which the inhabitants of that island, especially the common people, had not the least interest or concern.

These words at the beginning, *αρχοντος εν Παρω*, would naturally lead us to suppose, that the inscription related to Paros. And, if so, it would have been natural for the author to have mentioned some of the most important occurrences in the history of that island. But, says this acute and learned critic, what scheme does our chronologer pursue on this occasion? Does he record the events and revolutions of his own country? Does he mention any of the battles, sieges, and treaties of the Parians? any of their public institutions? any of their poets, patriots, or warriors? Does he mention Archilochus, who was honoured by his countrymen, and distinguished as a poet in a general assembly of the Greeks? Not a syllable on any of these subjects! On the contrary, he rambles from place to place, and records the transactions of Athens, Corinth, Macedon, Lydia, Crete, Cyprus, Sicily, Persia, and other foreign countries with which Paros had no connection.

In this view the inscription seems to have been as impertinent in the island of Paros, as a marble monument would be in this country, recording the antiquities of France or Spain; or one in Jamaica recording the revolutions of England. But upon supposition that the inscription is a forgery, it is easy to account for this extraordinary circumstance. A few chronological occurrences in the ancient history of Paros would not have been so interesting to the generality of readers, or so valuable in the estimation of every lover of antiquities, or, in short, so profitable to the compiler, as a general system of Grecian chronology.

VI. "The Greek and Roman writers, for a long time after the date of this work, complain that they had no chronological account of the affairs of ancient Greece." This position is confirmed by the testimony of Julius Africanus, Justin Martyr, Plutarch, Josephus, Varro, Diodorus Siculus, and others; and the following series of interrogatories is subjoined: "Thucydides, I know, lived 140 years before the chronicle is said to have been written; but if Thucydides, as well as other writers, complained that there was nothing but uncertainty in the earlier period of Grecian history, from whence can we suppose the author of this inscription collected such a clear, determinate, and comprehensive system of chronology? If he had any sources of information, which were unknown to succeeding writers, how happens it, that they should all of them overlook this most considerable, most exact, most creditable author?"

Arunde-  
lian.



Arunde-  
lian.

thor? Why did they omit this ancient account of their early ages? Why did they not copy his most memorable epochas? Why did they not produce his authority? or at least, why did they not mention his opinion? Surely nothing, to all appearance, could be more elaborate, more important, or of higher authority, than a chronological table, which was thought worthy of being engraved on marble.

V. "The chronicle is not once mentioned by any writer of antiquity. This indeed appears a strong argument against its authenticity. Apollodorus, an Athenian, the disciple of Aristarchus the grammarian, and Panætius the philosopher, wrote a genealogical and historical work on the early ages of Greece; but, though composed 120 years after the date of the Parian chronicle, it does not contain the smallest traces of a systematical chronology. It is remarkable too that the chronicle of Apollodorus is quoted by Diodorus Siculus, Strabo, Plutarch, A. Gellius, Lucian, and many other writers of antiquity; while the Parian chronicle, which comprehends a more extensive period, is entirely unnoticed. It contains, however, such wonderful discoveries in ancient history, that if it had existed 264 years before the Christian era, it must have excited a general attention, and been referred to as an authority by writers of succeeding times. But we do not find, in any author of antiquity, either poet or historian, geographer or chronologer, mythologist or scholiast, the most distant allusion to the Parian chronicle; though it was such a common practice among the ancients to mention the works of their predecessors, that in many books we find references and allusions to three, four, five, six, or seven hundred different authors of every denomination.

VI. "Some of the facts mentioned in the chronicle seem to have been taken from writers of a later date." Our inquirer collates several passages in the Parian chronicle with parallel passages in Greek authors, to evince that there is, in the former, an appearance of imitation, or a stronger resemblance than such as may be supposed to arise from accident; that there are likewise some improbabilities attending the account of Deucalion, as related in the Parian chronicle; and that the names of six, and, if the lacunæ are properly supplied, the names of 12 cities appear to have been engraved on the marble, exactly as we find them in Ælian's Various History. But there is not, our author observes, any imaginable reason for this particular arrangement. It does not correspond with the time of their foundation, with their situation in Ionia, with their relative importance, or with the order in which they are placed by other eminent historians. The argument by which our author endeavours to prove that the Parian chronicle has, in this instance, copied Ælian's Various History, seems decisive of the fact. He observes, that six names may be transposed 720 different ways; and that 12 names admit of 479,001,600 different transpositions. Supposing then, that there is no particular reason for one arrangement rather than another, it will follow, that the chance of two authors, placing them in the same order, is, in the former case, as 1 to 720; and in the latter as 1 to 479,001,600. It is therefore, says he, utterly improbable, that these names should have been placed in this order on the

marble, if the author of the inscription had not transcribed them from the historian."

It may indeed be urged, with regard to this similarity of arrangement in the Parian chronicle and Ælian's Various History, that the inference might be the very inverse of that which is specified by our author. But that Ælian should have seen the Parian chronicle, without once mentioning it; or that he should have exactly copied a list of towns, arranged neither according to chronological or topographical order; is indeed a supposition equally improbable with the other.

VII. "Parachronisms appear in some of the epochas, which we can scarcely suppose a Greek chronologer in the 129th Olympiad would be liable to commit." After specifying these, our inquirer asks, Would a writer of reputation and learning, in one of the most polished and enlightened eras of ancient Greece, commit such mistakes in opposition to the positive attestations of the most accurate historians, in events of public notoriety? Would a private citizen, or a magistrate of Paros, order a crude and inaccurate series of epochas to be engraved, at a great expence, and transmitted to posterity on a marble monument? It is hardly probable.

VIII. "The history of the discovery of the Parian chronicle is obscure and unsatisfactory." Our author observes, that it is attended with some suspicious circumstances, and without any of those clear and unequivocal evidences which always discriminate truth from falsehood. There are no data in the inscription by which to discover the place where the marble was erected. The place likewise where it was found is not ascertained; though the generality of writers who have had occasion to mention it have supposed that it was found in the island of Paros. If it was erected at Smyrna, as some imagine, our author asks for what purpose does the writer mention Aftyanax the archon of Paros, and not one circumstance relative to Smyrna? If, adds he, it was erected at Paros, why does he not mention more archons of that city than one? Or how shall we account for his profound silence with respect to all the events and revolutions which must have happened in that island, and have been infinitely more interesting to the natives than the transactions of any foreign country?

The train of circumstances by which the Parian chronicle came into the possession of Mr Petty, whom Lord Arundel had sent into the east for the purpose of collecting antiquities, as well as the subsequent conduct of Peiresc its former owner, affords our author a strong presumption, that "the inscription was actually fabricated, with the view of obtaining for it a high price, upon the pretence that it was a relic of great antiquity. It is certain, that there is something mysterious in the conduct of the first ostensible proprietors. These marbles had been totally unknown, or unnoticed, for almost 1900 years, and at last they are dug out of the ground—nobody can tell us when or where!"

IX. "The literary world has been frequently imposed upon by spurious books and inscriptions, and therefore we should be extremely cautious with regard to what we receive under the venerable name of antiquity." This proposition is illustrated by a great variety

Arunde-  
lian.

riety



Arundelian  
||  
Arufini.

riety of examples, and very properly exposes the forgeries which have disgraced the republic of letters in different ages: and although one of the more recent ones cited, namely Ossian's poems, be a point very far indeed from being established, yet that deceptions of this kind have been practised is an unquestionable fact.

In endeavouring, towards the end of his dissertation, to investigate the time of the supposed forgery, he observes, that the 16th century, and the prior part of the 17th, produced a multitude of grammarians, critics, and commentators, deeply versed in Grecian literature, and amply qualified for the compilation of such a chronological system as that of the Arundelian marbles. Above all, the science of chronology was particularly studied and investigated about that time: "Nunc ferret chronologia," says Scaliger in the year 1605, "omnes hoc ferrum excalfaciunt." Casaubon treats those persons with contempt who were unacquainted with the improvements which had been made in that department of learning after the revival of letters. Innumerable systems of chronology had been published before the year 1625: from which it was easy to extract a series of memorable events, and give the compilation a Grecian dress. "The avidity," says our author, "with which all relics of antiquity were then collected, and the high price at which they were purchased, were sufficient inducements to any one, whose avarice or whose necessity was stronger than his integrity, to engrave his labours on marble, and transmit them to Smyrna, as a commodious emporium for such rarities."

The precise period of the fabrication, however, must still be reckoned apocryphal and uncertain. The sum of fifty guineas, which Peiresc gave to the supposed fabricator, was inadequate to such a laborious and expensive work. Upon the whole, perhaps, it would be too hasty to pronounce decisively that this famous chronicle, so long respected, is an imposition upon the public. It may, however, be safely affirmed, that the suspicions against it are extremely strong, and the objections already cited of a nature very difficult to be removed. No attempts have yet been made with this view: But under some future article, as CHRONOLOGY, MARBLES, or PARIAN *Chronicle*, we may possibly have an opportunity of resuming the subject with additional information.

ARUNDO, the REED. See BOTANY *Index*.

ARUSINI CAMPI (erroneously written *Taurasini* by Cluverius), plains in Lucania, famous for the last battle fought between the Romans and Pyrrhus. That prince being at Tarentum, and hearing that the two new consuls Curius Dentatus and Cornelius Lentulus had divided their forces, the one including Lucania and the other Samnium; he likewise divided a chosen detachment of his army into two bodies, marching with his Epirots against Dentatus, in hopes of surprising him in his camp near Beneventum. But the consul having notice of his approach, marched out of his intrenchments with a strong detachment of legionaries to meet him, repulsed his vanguard, put many of the Epirots to the sword, and took some of their elephants. Curius, encouraged by this success, marched into the Arufian fields, and drew up his army in a plain, which was wide enough for his troops, but too narrow for the Epirot phalanx to act with its full ef-

fect. But the king's eagerness to try his strength and skill with so renowned a commander, stimulated him to engage at that great disadvantage. Upon the first signal the action began; and one of the king's wings giving way, victory seemed to incline to the Romans. But that wing where the king fought in person repulsed the enemy and drove them to their intrenchments. This advantage was in great part owing to the elephants; a circumstance which Curius perceiving, commanded a body of reserve, which he had posted near the camp, to advance and attack those animals with burning torches; which frightened and annoyed them to such a degree, that they wheeled about, broke into the phalanx, and put that body into the utmost disorder. The Romans taking advantage of this confusion, charged with such fury that the enemy were entirely broken and defeated. Pyrrhus retired to Tarentum, attended only by a small body of horse, leaving the Romans in full possession of his camp; which they so much admired, that they made it a model which they followed ever after.

ARUSPICES, or HARUSPICES, in *Roman Antiquity*, an order of priests who pretended to foretell future events by inspecting the entrails of victims killed in sacrifice; they were also consulted on occasion of portents and prodigies. The haruspices were always chosen from the best families; and as their employment was of the same nature as that of the augurs, they were as much honoured. Their college, as well as those of the other religious orders, had its particular registers and records.

ARX, in the *Ancient Military Art*, a town, fort, or castle, for defence of a place.

The arx in ancient Rome was a distinct edifice from the capitol, though some have confounded the two. According to Ryckius, the arx, properly speaking, was a place on the highest part of the Capitoline mount, stronger and better fortified than the rest, with towers and pinnated walls: in which was also the temple of Jupiter Capitolinus.

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

ARX was particularly used for a public place in Rome, set apart for the operations of the augurs. In which sense arx amounts to the same with what is otherwise called *auguraculum* and *auguratorium*, and in the camp *augurale*. Out of this arx it was that the *faciales*, or heralds, gathered the grass used in the ceremony of making leagues and treaties.

*Arx Britannica*, a citadel of Batavia, whose foundation is seen at low water, near the old mouth of the middle Rhine: some imagine it the pharos or high tower of Caligula, as Suetonius calls it; a monument of Caligula's sham conquest of Britain. Others, that it was built by Drusus, with an altar afterwards by Claudius, on his expedition into Britain. But the usual passage was from Gessoriacum; and Suetonius expressly says, Claudius passed over thence. The ancient name of this citadel, now covered by the sea, is nowhere expressed: Now commonly called 't *Huis Britten*, or *Brittenburg*; that is, *Arx Britannica*; but from what authority does not appear.

ARYTENOIDES,

Aruspices  
||  
Arx.



Aryte-  
noides  
||  
Afa.

ARYTENOIDES, in *Anatomy*, the name of two cartilages which, together with others, constitute the head of the larynx. It is also applied to some muscles of the larynx.

ARYTHMUS, in *Medicine*, the want of a just modulation in the pulse. It is opposed to *eurythmus*, a pulse modulated agreeably to nature.

ARZILLA, a very ancient maritime town of Africa, in the kingdom of Fez, about five leagues from Tangiers. It is built at the mouth of a river, and inhabited by Moors and Jews, who carry on no trade. It was formerly a Roman colony; afterwards fell under the government of the Goths; and was next taken by the Mahometans. Alphonso of Portugal, surnamed the African, took it by assault in 1471, and brought away the presumptive heir of the crown. After that prince came to the throne, he besieged it, in 1508, with 100,000 men; but was obliged to abandon the undertaking. However, at length the Portuguese took it of their own accord. W. Long. 5. 30. N. Lat. 35. 30.

AS, in *Antiquity*, a particular weight, consisting of 12 ounces; being the same with *libra*, or the Roman pound. The word is derived from the Greek *as*, which in the Doric dialect is used for *us*, *one*, q. d. an entire thing; though others will have it named *as* quasi *æs*, because made of brass.

*As* was also the name of a Roman coin, which was of different weights and different matter in different ages of the commonwealth. Under Numa Pompilius, according to Eusebius, the Roman money was either of wood, leather, or shells. In the time of Tullus Hostilius, it was of brass; and called *as*, *libra*, *libella*, or *pondo*, because actually weighing a pound or 12 ounces. Four hundred and twenty years after, the first Punic war having exhausted the treasury, they reduced the *as* to two ounces. In the second Punic war, Hannibal pressing very hard upon them, they reduced the *as* to half its weight, viz. to one ounce. And, lastly, by the Papirian law, they took away half an ounce more, and consequently reduced the *as* to the diminutive weight of half an ounce: and it is generally thought that it continued the same during the commonwealth, and even till the reign of Vespasian. The *as* therefore was of four different weights in the commonwealth. Its original stamp was that of a sheep, ox, or sow: but from the time of the emperors, it had on one side a Janus with two faces, and on the reverse the rostrum or prow of a ship.

*As* was also used to denote any integer or whole. Whence the English word *ace*. Thus *as* signified the whole inheritance; whence *heres ex asse*, the heir to the whole estate.

ASA, king of Judah, succeeded his father Abijam. He pulled down the altars erected to idols, restored the worship of the true God, and, with the assistance of Benhadad king of Syria, took several towns from the king of Israel. He died 917 years before the Christian era, and was succeeded by Jehoshaphat.

ASA, among *Naturalists*. The writers of the later ages have formed this word *asa* from the *lasar* of the ancients, and attributed it to a gum very different from that anciently known by the name they have thus corrupted.

The *asa* of the ancients was an odoriferous and fra-

grant gum; and the *asa* of the after ages had so little title to this epithet, that they distinguished it by one, expressing its being of an offensive or stinking smell. The Arabian writers, according to this distinction, describe two kinds of *asa*, the one stinking, the other aromatic; and the modern Greeks preserved the name *asa*, or *lasar*, to the stinking gum the Latins called by that name, but added a distinctive epithet to express its smell, and called it *scardolasarum*.

ASA or ASSA, in the *Materia Medica*, a name given to two very different substances, called *asa-dulcis* and *asa-fatida*.

*Asa Dulcis* is the same with BENZOIN.

*Asa-Fatida* is the concrete juice of an umbelliferous plant growing in several parts of Asia. See FERULA, BOTANY and MATERIA MEDICA Index.

ASAPH, ST, a city in Flintshire, with a bishop's see; on which account principally it deserves notice, being in itself but a poor place. As a bishoprick, it is of great antiquity, and was founded about the year 560, by Kentigern, a Scotsman, bishop of Glasgow. He began the church on the banks of the river Elwy, whence it is called by the Welsh *Land Elwy*, and in Latin *Elwenfis*. Kentigern returning into Scotland, left a holy man his successor, St Asaph. Who was his successor is uncertain, as there are no records that mention it; and it seems rather probable that the religious settled here had been necessitated to remove to some more peaceable abode, as the country was frequently the seat of war between the English and the Welsh. This see was formerly a very wealthy one; but its revenues were greatly lessened by the profusion of Bishop Parfew, who alienated much of the lands belonging to this bishoprick.

This diocese doth not contain any one whole county; but consists of part of Denbigh, Flint (where its church is), Montgomery, and Merioneth shires, and a small part of Shropshire; wherein are 121 parishes, and 131 churches and chapels, most of which are in the immediate patronage of the bishop. This see hath but one archdeaconry, viz. that of St Asaph, which is united to the bishoprick, for the better maintenance thereof. This see is valued in the king's books at 187l. 11s. 6d. but computed to be worth annually 1500l. The tenth of the clergy comes to 186l. 19s. 6½d. To this cathedral belongs a bishop, a dean, archdeacon, chancellor, &c.

ASAPPES, or AZAPES, an order of soldiers in the Turkish army, whom they always expose to the first shock of the enemy: to the end that the enemy being thus fatigued, and their swords blunted, the spahis and janizaries may fall on and find an easy conquest. The word is derived from the Turkish *saph*, which signifies *rank*, from whence they have formed *asphaph*, "to range in battle." The *asappes* are said to be held of so little value, that they frequently serve as bridges for the cavalry to pass over in bad roads, and as fascines to fill up the ditches of places besieged. They travel on foot, and have no pay but the plunder they can get from the enemy.

ASAR-ADDON, or ESAR-HADDON, the son of Sennacherib, succeeded his father about 712 years before the Christian era, and united the kingdoms of Nineveh and Babylon. He rendered himself master of Syria; sent a colony to Samaria; and his generals took King.

Afa  
||  
Afar-ad-  
don.



Afarina  
||  
Asbestos.

King Manesses, and carried him loaded with chains to Babylon. Afar-Addon died after a reign of 12 years.

ASARINA. See CHELONE.

ASAROTA, *ασαρωτα*, from *a* and *σασω*, *I sweep*, a kind of painted pavements in use before the invention of mosaic work. The most celebrated was that at Pergamus, painted by Sesus, and exhibiting the appearance of crumbs, as if the floor had not been swept after dinner, whence, according to Pliny, the denomination. Perrault supposes them to have been a black kind of pavements of a spongy matter.

ASARUM, ASARABACCA. See BOTANY *Index*.

ASBAMEA, a fountain of Cappadocia, near Tynana, sacred to Jupiter, and to an oath. Though this fountain bubbled up, as in a state of boiling, yet its water was cold; and never ran over, but fell back again: (Philostratus, Ammian).

ASBESTOS, a native fossil stone, which may be split into threads and filaments, from one inch to ten inches in length, very fine, brittle, yet somewhat flexible, silky, and of a grayish colour, not unlike talc of Venice. It is almost insipid to the taste, insoluble in water, and possesses the wonderful property of remaining unconsumed in the fire, which only whitens it.

The industry of mankind has found a method of working this mineral, and employing it in divers manufactures, chiefly cloth and paper. The manufacture is undoubtedly difficult enough. Pliny calls the asbestos *inventu rarum, textu difficillimum*. Wormius assures us, that the method of making cloth of asbestos is now entirely unknown. And indeed one would scarcely imagine the thing practicable, without the mixture of some other pliant matter, as wool, hemp, or flax, along with the asbestos, the filaments of this latter appearing too coarse and brittle to make any tolerable fine work. However this be, Bapt. Porta assures us, that in his time the spinning of asbestos was a thing known to everybody at Venice. Sig. Castagnatta, superintendant of some mines in Italy, is said to have carried the manufacture to such perfection, that his asbestos was soft and tractable, much resembling lamb skin dressed white: he could thicken and thin it at pleasure, and thus either make it into a very white skin or a very white paper.

This kind of linen cloth was chiefly esteemed by the ancients; though then better known and more common than among us, being held equally precious with the richest pearls: nor is it now of mean value, even in the country where it is most generally made, a China cover (i. e. a piece of 23 inches and three-quarters long) being worth 80 tale, i. e. 36l. 13s. 4d. Pliny says, he himself had seen napkins thereof, which, being taken foul from the table after a feast, were thrown into the fire, and by that means were better scoured than if they had been washed in water, &c. But its principal use, according to Pliny, was for the making of shrouds, for royal funerals, to wrap up the corpse, so that the ashes might be preserved distinct from those of the wood, &c. whereof the funeral pile was composed: and the princes of Tartary, according to the accounts in the Philosophical Transactions, still use it at this day in burning their dead. Some of the ancients are said to have made themselves clothes of it, particularly the Brachmans among the Indians. The wicks for their perpetual lamps, according to Dr Liff-

ter, were also made of it: some to this day use it for the wicks of such lamps as they would not have any trouble with; because the asbestos never wasting, there is no occasion for shifting the wick. Septalla, canon of Milan, had thread, ropes, nets, and paper, made of the asbestos. A handkerchief or pattern of the linen was long since presented to the Royal Society, a foot long and half a foot broad. This gave two proofs of its resisting fire; though, in both experiments, it lost above three drachms of its weight. When taken out red hot, it did not burn a piece of white paper on which it was laid. Mr Villette pretends that his large burning concave usually vitrifies the asbestos.

The method of preparing the incombustible paper and cloth is thus described by Ciampini: The stone is laid to soak in warm water; then opened and divided by the hands, that the earthy matter may be washed out. The ablution being several times repeated, the flaxlike filaments are collected and dried; and they are most conveniently spun with an addition of flax. Two or three filaments of the asbestos are easily twisted along with the flaxen thread, if the operator's fingers are kept oiled. The cloth also, when woven, is best preserved by oil from breaking or wasting. On exposure to the fire, the flax and the oil burn out, and the cloth remains pure and white. Probably from the dissipation of some extraneous matter of this kind proceeded the diminution of weight in the handkerchief just recited; for pure asbestos leaves nothing. The shorter filaments which separate in washing the stone may be made into paper in the common manner.

The asbestos is found in Crete and Cyprus; in Tartary; at Namur in the Low Countries; in Thuringia among the mines; in the old Noricum; in Egypt; in the mountains of Arcadia; at Puteoli; in the island of Corfica; in the island of Anglesey in Wales; in Aberdeenshire in Scotland; at Montauban in France; and in Siberia.

ASCALON, an ancient city, and one of the five satrapies or principalities of the Philistines; situated on the Mediterranean, 43 miles to the south-west of Jerusalem (Antonine), between Azotus to the north and Gaza to the south. The birth place of Herod the Great, thence furnished *Ascalonita* (Stephanus). Famous for its scallions, which take name from this town (Strabo, Pliny). Now *Scalona*. E. Long. 34. 30. Lat. 31. 30.

ASCANIUS, the son of Æneas and Creusa, succeeded his father in the kingdom of the Latins, and defeated Mezentius king of the Tuscans, who had refused to conclude a peace with him. At length he founded Alba Longa; and died about 1139 years before the Christian era, after a reign of 38 years.

ASCARIS. See HELMINTHOLOGY *Index*.

ASCENDANT, in *Astrology*, denotes the horizon, or the degree of the ecliptic which rises upon the horizon at the time of the birth of any one. This is supposed to have an influence on the person's life and fortune, by giving him a bent and propensity to one thing more than another.

In the celestial theme, this is also called the *first house*, the *angle of the East* or *Oriental angle*, and the *significator of life*. Such a planet ruled in his *ascendant*: Jupiter was in his *ascendant*, &c. Hence the word is also used in a moral sense, for a certain superiority which

Asbestos  
||  
Ascendant.



Ascendants which one man has over another, from some unknown cause.

Ascension Island. ASCENDANTS, in *Law*, are opposed to descendants in succession; i. e. when a father succeeded his son, or an uncle his nephew, &c. heritage is said to ascend, or go to ascendants.

ASCENDING, in *Astronomy*, is said of such stars as are rising above the horizon in any parallel of the equator.

ASCENDING *Latitude*, is the latitude of a planet when going towards the north pole.

ASCENDING *Node*, is that point of a planet's orbit, wherein it passes the ecliptic, to proceed northward. This is otherwise called the *northern node*, and represented by this character ♁.

ASCENDING *Vessels*, in *Anatomy*, those which carry the blood upwards; as the aorta ascendens. See ANATOMY.

ASCENSION, in *Astronomy*, is either right or oblique. Right ascension of the sun, or a star, is that degree of the equinoctial, counted from the beginning of Aries, which rises with the sun or star in a right sphere. Oblique ascension is an arch of the equator intercepted between the first point of Aries and that point of the equator which rises together with a star in an oblique sphere.

ASCENSION *Day*, a festival of the Christian church, held ten days before Whitsuntide, in memory of our Saviour's ascension into heaven after his resurrection.

ASCENSION *Island*, a barren island on the coast of Africa, lying in W. Long. 17. 20. S. Lat 7. 5. The following account is given of it by Mr Forster. "This island was first discovered in 1501, by Joaõ de Nova Galego, a Portuguese navigator, who named it *Ilha de Nossa Senhora de Conceição*. The same admiral on his return to Portugal in 1502, discovered the island of St Helena, which obtained that name from the day of the discovery. Ascension was seen a second time by Alfonso d'Albuquerque on his voyage to India in 1503, and then received the name it now bears; but was already at that time in the same desolate condition as at present. We sent several parties on shore, who passed the night on the watch for turtles, which came to lay their eggs on the sandy shores. The dreariness of this island surpassed all the horrors of Easter island and Tierra del Fuego, even without the assistance of snow. It was a ruinous heap of rocks, many of which, as far as we could discern from the ship, seemed to be totally changed by the fire of a volcano. Nearly in the centre of the island rises a broad white mountain of great height, on which we discerned some verdure by the help of our glasses, from whence it has obtained the name of *Green Mountain*.

"We landed early in the morning among some rocks, the surf being always immensely high on the great beach; which consists of minute shell-sand, chiefly of a snowy white, very deep, dry, and intolerable to the eyes when the sun shines. We ascended among heaps of black cavernous stone, which perfectly resembles the most common lavas of Vesuvius and Iceland, and of which the broken pieces looked as if they had been accumulated by art. The lava currents cooling very suddenly, may easily be imagined to produce such an effect. Having ascended about 12 or 15 yards perpendicular, we found ourselves on a great level plain

VOL. II. Part II.

of six or eight miles in circuit; in the different corners of which we observed a large hill of an exact conical shape, and of a reddish colour, standing perfectly insulated. Part of the plain between these conic hills was covered with great numbers of smaller hillocks, consisting of the same wild and ragged lava as that near the sea, and ringing like glass when two pieces are knocked together. The ground between the heaps of lava was covered with a black earth, on which we walked very firmly; but when these heaps did not appear, the whole was a red earth, which was so loose, and in such dry minute particles, that the wind raised clouds of dust upon it. The conic hills consisted of a very different sort of lava, which was red, soft, and crumbling into earth. One of these hills stands directly in front of the bay, and has a wooden cross on its summit, from whence the bay is said to take its name. Its sides are very steep, but a path near three quarters of a mile long winds round it to the summit. After examining this remarkable country a little longer, we concluded, with a great degree of probability on our side, that the plain on which we stood was once the crater or seat of a volcano, by the accumulation of whose cinders and pumice stones the conic hills had been gradually formed: that the currents of lava which we now saw divided into many heaps, had perhaps been gradually buried in fresh cinders and ashes; and the waters coming down from the interior mountain in the rainy season had smoothed every thing in their way, and filled up by degrees the cavity of the crater. The rocky black lava was the residence of numberless men-of-war birds and boobies, which sat on their eggs, and suffered us to come close to them.

"About eight in the evening, it being then quite dark, a small vessel came into the bay, and anchored directly within us. Captain Cook having hailed her repeatedly, received in answer that she was the *Lucretia*, a New York sloop, which had been at Sierra Leon, and was now come to catch turtles, in order to sell them at the windward islands of the West Indies. A lieutenant was sent on board, who learned from the master, that he had taken our ship to be a French Indiaman, and was very desirous of trading with English India ships, in which he was disappointed by the company's regulations. He dined with our officers the next day, but on the 31st at day-break left the island. On the 30th in the morning, we landed a second time; and, crossing the plain, arrived at a prodigious lava current, intersected by many channels from six to eight yards deep, which bore strong marks of being worn by vast torrents of water, but were at present perfectly dry, the sun being in the northern hemisphere. In these gullies we found a small quantity of soil consisting of a black volcanic earth, mixed with some whitish particles gritty to the touch. Here we saw some small bunches of purslane, and a species of grass (*panicum sanguineum*) which found sufficient nutriment in the dry soil. Having at last, with great fatigue, climbed over this extensive and tremendous current of lava, which was much more solid than the heaps nearer to the sea, we came to the foot of the Green Mountain, which even from the ship's place in the bay we had plainly distinguished to be of a different nature from all the rest of the country. Those parts of the lava which surrounded it were covered with a prodigious quantity



Ascension  
Island  
||  
Ascent.

of purilane, and a new kind of fern, *lonchites Adscensionis*), where several flocks of wild goats were feeding. The great mountain is divided in its extremities, by various clefts, into several bodies; but in the centre they all run together, and form one broad mass of great height. The whole appears to consist of a gritty tophaceous lime stone, which has never been attacked by the volcano, but probably existed prior to its eruption; its sides are covered with a kind of grass, peculiar to the island, which Linnæus has named *aristida Adscensionis*. We likewise observed several flocks of goats feeding on it; but they were all excessively shy, and ran with surprising velocity along tremendous precipices, where it was impossible to follow them. The master of the New York sloop acquainted us, that there is a spring of water on one part of this mountain, which falls down a great precipice, and is afterwards absorbed in the sand. I am almost persuaded, that, with a little trouble, Ascension might shortly be made fit for the residence of men. The introduction of furze (*ulex Europæus*), and of a few other plants which thrive best in a parched soil, and are not likely to be attacked by rats or goats, would soon have the same effect as at St Helena. The moisture attracted from the atmosphere by the high mountains in the centre of the island, would then no longer be evaporated by the violent action of the sun, but collect into rivalets, and gradually supply the whole island. A sod of grasses would everywhere cover the surface of the ground, and annually increase the stratum of mould, till it could be planted with more useful vegetables.

We returned gradually to Cross Bay, in the heat of noon, over the plain; having a space of more than five miles to traverse, where the sun burnt and blistered our faces and necks, and heated the soil to such a degree, that our feet were likewise extremely sore. About three o'clock we arrived at the water's side; and after bathing in a small cove among a few rocks, we made the signal for a boat, and were taken on board. The next forenoon we made another small excursion, in company with Captain Cook, towards the Green Mountain; but we were all of us so much fatigued, that we could not reach it. We made no new observations in the course of this day, the nature of the island being dreary beyond description in its outskirts."

ASCENSIONAL DIFFERENCE, the difference between the right and oblique ascension of the same point to the surface of the sphere.

ASCENT, in a general sense, implies the motion of a body upwards, or the continual recess of a body from the earth. The Peripatetics attribute the spontaneous ascent of bodies to a principle of levity inherent in them. The moderns deny any such thing as spontaneous levity; and show, that whatever ascends, does it in virtue of some external impulse or extrusion. Thus it is that smoke and other rare bodies ascend in the atmosphere; and oil, light woods, &c. in water; not by any external principle of levity, but by the superior gravity or tendency downwards of the parts of the medium wherein they are. The ascent of light bodies in heavy mediums is produced after the same manner as the ascent of the lighter scale of a balance. It is not that such scale has an internal principle whereby

it immediately tends upwards; but it is impelled upwards by the preponderancy of the other scale; the excess of the weight of the one having the same effect, by augmenting its impetus downwards, as so much real levity in the other; by reason the tendencies mutually oppose each other, and that action and reaction are always equal.

ASCENT of Bodies on Inclined Planes, the reader will find explained under MECHANICS; Ascent of Fluids, under HYDROSTATICS; and Ascent of Vapours, under the article EVAPORATION.

ASCESIS, properly denotes exercise of the body. It is formed from the verb *ασκω*, used by the ancients in speaking of the sports and combats of the athlete.

ASCESIS is also used by philosophers, to denote an exercise conducive to virtue, or to the acquiring a greater degree of virtue. This is particularly denominated the *philosophical ascesis*, because practised chiefly by philosophers, who make a more peculiar profession of improving themselves in virtue; on the model whereof the ancient Christians introduced a religious Ascesis.

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

ASCETIC, an ancient appellation given to such persons as, in the primitive times, devoted themselves more immediately to the exercises of piety and virtue, in a retired life; and particularly to prayer, abstinence, and mortification. The word is derived from *ασκηω*, *exerceo*, "I exercise." Afterwards, when the monks came in fashion, this title was bestowed upon them; especially upon such of them as lived in solitude.

ASCETIC is also a title of several books of spiritual exercises.—As, the *Ascetics*, or devout exercises of St Basil, archbishop of Cæsarea in Cappadocia.

We also say the *ascetic life*, meaning the exercise of prayer, meditation, and mortification.

ASCHAFFENBURG, a town of Germany, seated on the river Maine, in the circle of the Lower Rhine, and territory of the elector of Mentz, who has a palace there. It is memorable for being the place where the king of Great Britain took up his quarters the night before the battle of Dettingen. E. Long. 9. 35. N. Lat. 50. 14.

ASCHAM, ROGER, an Englishman of considerable learning in the 16th century, was born at Kirby Wiske, a village in Yorkshire, near Northallerton. John Ascham, his father, was house-steward in the family of Scroop, and by his wife, Margaret, was connected with several respectable families. A short time before his death, Sir Anthony Winfield, having conceived a predilection for his third son Roger, took him into his family, and extended his bounty so far as to give him the advantage of a private education along with his own sons. Under a domestic tutor, he made a rapid progress in classical learning, and early discovered a great partiality for reading. The superiority of genius and docility of temper which he constantly displayed,

Ascent  
||  
Ascham.



Afcham. displayed, induced his patron to send him to St John's college, Cambridge, in the year 1530.

The revival of Grecian and Roman literature at the period Afcham entered upon his studies, was peculiarly favourable to the natural bent of his inclination. A desire of excelling uniformly influenced his conduct, and adopting the maxim, *Qui docet, discit*, he began to teach boys the rudiments of the Greek language, as soon as he was acquainted with the elementary parts himself. His plan was approved by Pember; and under the direction of this valuable friend, he soon became acquainted with the best Greek and Latin authors. But he took particular delight in reading Cicero and Cæsar; and upon them he formed the elegance of his Latin style, which proved so honourable and so advantageous in the after part of his life.

Afcham took his first degree of bachelor of arts in the 18th year of his life, and was chosen fellow of the college about a month afterwards. The favourable disposition, however, which he manifested towards the reformed religion, was no small obstacle in the way of his preferment. He was elected master of arts in the year 1537, the 21st of his age; and about this period he began to act in the capacity of a tutor.

His reputation for Greek learning soon brought him many pupils; and these were so well instructed, that several of them afterwards arose to considerable eminence. Of these, William Grindall was one of the most distinguished, who obtained the station of master of languages to the lady Elizabeth, upon the recommendation of Sir John Cheke. It appears uncertain why Afcham himself was not appointed to that honourable station; but his partiality for the university, seems, from a hint in one of his letters, to have been the cause. At that period there was no particular chair appropriated to the Greek language; but Afcham was appointed by the university, to read lectures upon that language in the schools. A dispute arose in the university at that time about the pronunciation of the Greek language, in which Afcham first opposed the method observed by Sir John Cheke and Sir Thomas Smith; but upon more mature deliberation, he adopted that method, which has ever since been practised in the English schools. Both on account of the beauty of his hand-writing, and the purity and elegance of his Latin, he was employed to write the public letters of the university.

By the advice of his friend Pember, he turned his attention to the study of instrumental music, and thereby enlivened his leisure hours, and prepared his mind for renewed exertion. In his study he also amused himself with embellishing the pages of his manuscripts with beautiful draughts; and in the field, he joined in the diversion of the bow and arrow. The learned Afcham did not deem his labour improperly bestowed in writing a book entitled *Toxophilus*, in that age when the practice of fire-arms was in its infancy, and the proper use of the bow was of more importance than for mere amusement. This work was useful at that time for introducing into the English language, a more natural, easy, and truly English diction, than was formerly in use; and it also abounds with many beautiful allusions and curious fragments of English history. Afcham candidly acknowledges, that being anxious to make the tour of Italy, which was then the

great republic of letters, and particularly of Grecian literature, he wished, by dedicating his book to the king, to obtain a pension, to enable him to make that tour. It reflects some lustre on the benevolence of Henry VIII. that in the year 1544, he settled upon him an annual pension of 10l. which Dr Johnson, considering the circumstance of the times, estimates at the value of 100l. Upon the death of Henry, this pension was for some time discontinued, but was again renewed by Edward VI. and doubled by Queen Mary. In the same year also, Afcham obtained the appointment of orator to the university, an office which he retained with great reputation, during the period he was connected with the university.

For some years he received an annual gratuity from Lee, archbishop of York, but to what amount is not recorded; and, in 1548, upon the death of his pupil Grindall, preceptor to the lady Elizabeth, his pupils and writings had acquired him such celebrity, that he was appointed to direct the studies of that princess. He successfully acquitted himself in that honourable charge; but two years after, from some unknown cause of dissatisfaction, he returned to the university, having taken an abrupt leave of the princess. This part of his conduct did not lessen him in the esteem of Elizabeth; for in the same year, she recalled him to court, and appointed him secretary to Sir Richard Morisine, ambassador to the emperor Charles V. In his way to London, he paid a visit to Lady Jane Gray, whom he found in her chamber, reading Plato's Phædo in Greek, "and that," says he, "with as much delight, as some gentlemen would read a merry tale in Boccaccio;" while the duke and dukes, and the rest of the household, were hunting in the park.

In the character of secretary to Sir Richard, besides aiding him in the management of his public affairs, he also conducted his private studies. During the mornings of four days in the week, he read with him a portion of Herodotus or Demosthenes; and, in the evenings, some pages of Sophocles or Euripides; and, on the other mornings, he wrote the letters of public business; and, on the evenings, he either wrote his own private letters, or continued his diary and remarks. While Afcham was on his travels, he made a short excursion to Italy; but was much disgusted with the manners of that people, especially of the Venetians. After his return from that tour, he favoured the world with a curious tract, entitled "A Report, and Discourse of the Affairs and State of Germany," &c.

Upon the death of Edward VI. Morisine was recalled, and Afcham returned to the university. But through the interest of Bishop Gardiner, the fortune of Afcham soon took a favourable turn, who although he knew him to be a Protestant, obtained him the office of Latin secretary to the queen, with liberty to retain his university emoluments, and the additional salary of 10l. a-year. The prudence of Afcham enabled him to act a respectable part, both under the intolerant reign of Mary, and also in the most perilous situations during the reign of Elizabeth; and the readiness and elegance of his Latin style, rendered him a useful member at court. He is reported, to have written during the course of three days 47 letters, to persons in the highest ranks of life.

When the crown passed to a Protestant prince, it



Afcham  
||  
Ascites.

made little alteration in the condition of Afcham, who still retained his station. He spent several hours every day in reading the learned languages with the queen; and her proficiency was equal to his labours, and it might have been expected, that his rewards would have been more ample than 20l. per annum, together with the prebend of Westwang. Some have alleged, that the queen kept him poor, because, it is said, he was addicted to cock-fighting, and in other respects extravagant; but the defects in his character should not have deprived him of the rewards due to actual services.

In consequence of a conversation which took place in the apartment of secretary Cecil, upon the subject of education, Sir Richard Sackville, who was present, requested him to write a book on the general subject of education. This work is entitled "The Schoolmaster;" and while it displays the humanity of the author, contains many excellent instructions to the teachers of youth. This treatise was published by his widow after his death. By too close application in composing a poem, which he intended to present to the queen on the new year's day of 1569, he was seized with an illness, which proved fatal, and he died in the 53d year of his age, on the 23d of December, 1568. His death was universally lamented, and the queen expressed her regret, by saying, that "she would rather have lost 10,000l. than her tutor Afcham." His epistles, which are valuable, both on account of their style and historical information, were published after his death, and dedicated to the queen; and his other works have since been collected into one volume by Bennet.

Roger Afcham appears to have been possessed of an amiable disposition, kind to his friends, and grateful to his benefactors. Although he was firm in his adherence to his religious opinions, yet his zeal did not carry him to excess in opposing those of other men. His talents both as a man and as a scholar were very considerable, and he deserved more ample returns for his services than were conferred upon him by those who enjoyed the benefit of his labours, in the advancement of solid learning and correct taste. (*Gen. Biog.*)

ASCIBURGIUM, in *Ancient Geography*, mentioned by Tacitus, supposed to be one of the 50 citadels built on the Rhine; who adds, some imagined it was built by Ulysses. Here was a Roman camp and a garrison. To its situation on the banks of the Rhine answers a small hamlet, now called *Afburg*, not far from Meurs, in the duchy of Cleves.

ASCIDIA. See *HELMINTHOLOGY Index*.

ASCI, among *Geographers*, an appellation given to those inhabitants of the earth who, at certain seasons of the year have no shadow; such are all the inhabitants of the torrid zone, when the sun is vertical to them.

ASCITÆ, (from *ασκος*, a bag or bottle), in *Antiquity*, a sect or branch of Montanists, who appeared in the second century. They were so called, because they introduced a kind of Bacchanals into their assemblies, who danced round a bag or skin blown up: saying, they were those new bottles filled with new wine whereof our Saviour makes mention, Matth. ix. 17.—They are sometimes also called *Ascodrogita*.

ASCITES, in *Medicine*, the dropsy of the abdomen. See *MEDICINE Index*.

ASCLEPIA, a festival of Æsculapius the god of physic, observed particularly at Epidaurus, where it was attended with a contest between the poets and musicians, whence it was likewise called 'Ἱερος Ἀγων, the sacred contention.

Asclepia  
||  
Asculum  
Apulum.

ASCLEPIAD, in *Ancient Poetry*, a verse composed of four feet, the first of which is a spondee, the second a choriambus, and the two last dactyls; or of four feet and a cæsura, the first a spondee, the second a dactyl, after which comes the cæsura, then the two dactyls; as, *Mæcenas atavis edite regibus*.

ASCLEPIADES, one of the most celebrated physicians among the ancients, was a native of Prusa, in Bithynia; and practised physic at Rome, under Pompey, 96 years before the Christian era. He was the head of a new sect; and, by making use of wine and cold water in the cure of the sick, acquired a very great reputation. He wrote several books, which are frequently mentioned by Galen, Celsus, and Pliny; but they are now lost.

ASCLEPIADES, a famous physician under Hadrian, of the same city with the former. He wrote several books concerning the composition of medicines; both internal and external.

ASCLEPIAS, SWALLOW-WORT. See *BOTANY Index*.

ASCODUTÆ, in *Antiquity*, a sect of heretics, in the second century, who rejected all use of symbols and sacraments, on this principle, That incorporeal things cannot be communicated by things corporeal, nor divine mysteries by any thing visible.

ASCOLI, formerly *Asculum Apulum*, a pretty large and populous town of Italy, in the marquisate of Ancona, and territory of the church. It is a bishop's see, and seated on a mountain, at the bottom of which runs the river Fronto. E. Long. 15. 20. N. Lat. 42. 47.

ASCOLI de Satriano, formerly *Asculum Picenum*, an episcopal city of Italy, in the kingdom of Naples; seated on a mountain. E. Long. 15. 5. N. Lat. 42. 8.

ASCOLIA, in *Grecian Antiquity*, a festival celebrated by the Athenian husbandmen in honour of Bacchus, to whom they sacrifice a he-goat, because it destroys the vines (*Ovid. Fast. i. 357*); and, to show the greater indignity to an animal hated by Bacchus, the peasants, after having killed him, made a foot-ball of his skin. Virgil has beautifully described the occasion of the sacrifice and manner of celebrating the festival, *Georg. ii. 380*.

ASCRIPITII, or ADSCRIPITII, were a kind of villains, who, coming from abroad, settle in the lands of some new lord, whose subjects or servants they commence; being so annexed to the lands, that they may be transferred and sold with the same. Ascriptitii is sometimes also used in speaking of aliens or foreigners newly admitted to the freedom of a city or country.

ASCRIPITII was also used in the military laws for the recruits appointed to supply the losses of the legions, called also *Accensi*.

ASCRIVIUM, in *Ancient Geography*, a town of Dalmatia, on the Sinus Rhizicus (Pliny, Ptolemy): Now *Cattaro* (Harduin); the capital of the territory of Cattaro, in Venetian Dalmatia. E. Long. 19. 20. Lat. 45. 25.

ASCULUM APULUM, in *Ancient Geography*, a town of Apulia, much mentioned in the war with Pyrrhus



*Asculum Picenum* Pyrrhus (Florus, Plutarch): Now called *Ascoli*; a city of the Capitanata, in the kingdom of Naples. E. Long. 16. 30. Lat. 41. 15.

*Asculum Picenum*, in *Ancient Geography*, a town of the Piceni (Cæsar); and the capital (Florus): Now *Ascoli*, in the marquisate of Ancona, on the river Fronto. E. Long. 15. 5. Lat. 42. 50.

ASCYRUM, PETER'S-WORT. See BOTANY Index.

ASDRUBAL, the name of several Carthaginian generals. See CARTHAGE.

ASEKI, or ASEKAI, the name which the Turks give to the favourite sultanas who have brought forth sons. These are greatly distinguished above others in their apartments, attendants, pensions, and honours. They have sometimes shared the government. The sultana who first presents the emperor with a male child, is reckoned the chief favourite, is called *bayuk afeke*, and ranks as a legitimate wife: though, from the time of Bajazet I. the sultans are forbid to marry by a public law, which Solyman II. violated in favour of Roxalana.

ASELLUS, in *Zoology*, the trivial name of a species of oniscus. See ONISCUS, ENTOMOLOGY Index.

ASGILL, JOHN, a late humorous writer, was bred to the law, and practised in Ireland with great success. He was there elected a member of the house of commons, but was expelled for writing a treatise on the possibility of avoiding death; and being afterwards chosen a member for the borough of Bromber in Suffex, he was also on the same account expelled the parliament of England. After this, he continued 30 years a prisoner in the Mint, Fleet, and King's-bench; during which time he published a multitude of small political pamphlets, several of which were in defence of the succession of the house of Hanover, and against the pretender. He died in the rules of the King's-bench, in the year 1738, when he was upwards of fourscore.

ASH, in *Botany*. See FRAXINUS, BOTANY Index.

Ash-Hole, among *Chemists*, is the lowest part of a furnace; and is intended to receive the ashes falling from the fire, and to give a passage to the air which is to be introduced into the furnace, to keep up the combustion.

Ash-Wednesday, the first day of Lent; supposed to have been so called from a custom in the church, of sprinkling ashes that day on the heads of penitents then admitted to penance. See LENT.

ASHBORN, a town in Derbyshire, seated between the rivers Dove and Compton, over which there is a stone bridge, in a rich soil. It is a pretty large town, though not so flourishing as formerly. W. Long. 1. 35. N. Lat. 53. 0.

ASHBURTON, a town in Devonshire. It sends two members to parliament, and is one of the four stannery towns. It is seated among the hills, which are remarkable for tin and copper; and has a very handsome church; as also a chapel, which is turned into a school. It gives title of Baron to the family of Dunning. W. Long. 3. 10. N. Lat. 50. 30.

ASHBY DE LA ZOUCH, a market-town in Leicestershire, situated in W. Long. 1. 20. N. Lat. 52. 40. It had a castle which was long in the possession of the family of de la Zouch. It afterwards fell into the hands

of Edward IV. who granted it to Sir Edward Hastings, created Baron Hastings, with license to make a castle of the manor-house, to which he adjoined a very high tower. It was demolished in 1648; but a great part of the tower is still standing. It now belongs to the earl of Huntingdon.

ASHDOD, or AZOTUS. See AZOTUS.

ASHES, the earthy particles of combustible substances after they have been burnt.

If the ashes are produced from vegetable bodies, they contain a considerable quantity of fixed salt, blended with earthy particles: and from these ashes the fixed alkaline salts called *pot-ash*, *pearl-ash*, &c. are extracted. See CHEMISTRY Index.

The ashes of all vegetables are vitrifiable, and found to contain iron.—They are also an excellent manure for cold and wet grounds.

Several religious ceremonies depend upon the use of ashes. St Jerome relates, that the Jews in his time rolled themselves in ashes, as a sign of mourning. To repent in sackcloth and ashes, is a frequent expression in Scripture for mourning and being afflicted for our sins. There was a sort of lie and lustral water made with the ashes of a heifer sacrificed upon the great day of expiation; the ashes whereof were distributed to the people, and this water was used in purifications, as often as any touched a dead body, or was present at funerals, (Numb. xix. 17.) Tamar after the injury received from her brother Amnon, covered her head with ashes, (2 Sam. xiii. 19.) The Psalmist in great sorrow says, that he had eaten ashes as if it were bread, (Ps. cii. 9.); which, however, is to be considered as an hyperbole. He sat on ashes, he threw ashes on his head; his food, his bread, was spoiled with the ashes wherewith he was covered.

The ancient Persians had a sort of punishment for some great criminals, which consisted in executing them in ashes. The criminal was thrown headlong from a tower 50 cubits high, which was filled with ashes to a particular height, (2 Mac. xiii. 5, 6.) The motion which the criminal used to disengage himself from this place, plunged him still deeper into it, and this agitation was further increased by a wheel which stirred the ashes continually about him till at last he was stifled.

ASHFORD, a market town of Kent, situated about 12 miles south-west of Canterbury, in E. Long. 45. and N. Lat. 51. 15.

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

ASHLERING, among *Builders*, signifies quartering, to lath to, in garrets, about two and a half or three feet high, perpendicular to the floor, up to the under side of the rafters.

ASHMOLE, ELIAS, an industrious English antiquarian, and an eminent philosopher of the 17th century, was born at Litchfield in 1617. Having enjoyed the advantages of a country education, he went to London at the age of 16, and resided in the family of James Paget, Esq. one of the barons of the exchequer, and then turned his attention to the law and other branches of literature. In the year 1638, he married, and commenced the business of attorney in London. When the civil war began, he then being a widower,

entered

Ashdod  
||  
Ashmole.



Ashmole. entered into the king's service in the ordinance department. When residing in the city of Oxford in that capacity, he entered Brazen Nose college, and began the study of natural philosophy, mathematics, and astronomy. Naturally inclined to grave and scientific trifles, he wandered too far into the wilds of astrological imposture, not a little encouraged by several eminent men of that age. From the same cause, he entered keenly into the secrets of masonry, and made considerable additions to the history of that sect.

When Worcester was surrendered to parliament in 1646, Ashmole retired to London, where he became acquainted with the famous astrologers, Moore, Lilly, and Booker.

Having retired to Berkshire in the year following, he added the knowledge of botany to his other acquirements. There he became acquainted with Lady Mainwaring, a well-jointed widow, whom he married in 1649; and although her estate was sequestered on account of his loyalty, yet through the interest of Lilly and others, he again recovered his property, and afterwards settled in London, where his house became the resort of all the curious literati of the place. A taste for chemistry, or rather alchemy, was produced, by his conversation with William Backhouse; and Ashmole, under a feigned name, published a work upon that subject. The next effort of his industry, was a collection of the manuscripts of English chemists, which he published under the title of *Theatrum Chymicum Britannicum*, in 4to. This work was the effect of great labour and much expence; and although it procured him much fame among the learned, yet it was only a collection of *Alchemy*; and he appears to have been ignorant of real chemical knowledge. About this period, he began to number among his acquaintances Selden, Oughtred, and Dr Wharton.

The wealth he acquired by his marriage engaged him in several disputes, and the lady herself at last made an attack upon him in chancery, but he was honourably acquitted, and the lady restored to her affectionate husband. His active industry never wearied out, and he next attended to the study of antiquity and the investigation of records. Along with Sir W. Dugdale, he about this period traced a Roman road to Litchfield. Abandoning all other pursuits, he began to make preparations for his "History of the order of the Garter;" a production which procured him lasting fame. Upon a visit to Oxford, he gave a full description of the coins bequeathed to that university by Laud; and about this time, John Tradescant, the famous gardener of Lambeth, presented him with the collection of curiosities, which both he and his father had procured.

Upon the restoration, Ashmole was greatly respected by the king, who made him Windsor herald, and employed him to give a description of the royal medals. The offices of commissioner and comptroller of excise were conferred upon him; and being called to the bar in the Middle Temple, he was afterwards admitted a fellow of the Royal Society. The university of Oxford conferred upon him the degree of doctor of physic, and several other employments and emoluments were given him, until he rose to the highest eminence in the literary world. About this time his second wife died, and he married the daughter of his

friend Sir W. Dugdale. In May 1672, he addressed his great work on the order of the Garter, to the king, entitled "The institution, laws, and ceremonies of the most noble order of the Garter; collected and digested into one body, by Elias Ashmole of the Middle Temple, Esq. Windsor herald at arms," folio, London, 1672. In favour of his brother-in-law, Mr Dugdale, he resigned his office of herald of Windsor; and when offered the office of garter king-at-arms, he declined it in favour of Sir W. Dugdale. About this time a fire broke out in one of the chambers of the temple adjacent to his, and consumed a library which he had been collecting during the course of thirty-three years, together with 9000 coins, and many valuable antiquities; but his manuscripts and gold medals fortunately were saved. In 1683, he sent his manuscripts and curiosities to the university of Oxford, which laid the foundation of the *Museum Ashmoleanum*, still in Oxford. On the death of Sir W. Dugdale, he refused a second time the office which he held. At the advanced age of 76, he died, and was interred in the church of Great Lambeth. Industry, perseverance, curiosity, and accuracy, appear to have been the leading features in his character. (*Gen. Biog.*)

ASIA, according to the ancients, was one of the three great divisions of the earth, and is considered by the moderns as one of the four quarters of the habitable globe. Its extent is immense; and its importance, both in a historical and in a philosophical point of view, is very great. It contains every variety of soil and climate, and is inhabited by nations which possess undoubted claims to the highest antiquity. When Europe was yet covered by deep forests, thinly inhabited by a few wild animals, or by a barbarous race of men, destitute of science, and even of the meanness of those accommodations which the progress of art now enables all classes of people to enjoy, Asia abounded with flourishing cities and populous nations, in which commerce and agriculture had reached a considerable measure of improvement.

The revolutions which have occurred in different regions of the great Asiatic continent, occupy a great space in the general history of the human race. These revolutions have possessed this peculiar character, that when they commenced in one quarter of Asia, we most frequently find that they extended themselves, in a few years, to the remotest regions, and even sometimes into the centre of Europe. As the human mind usually derives its character from the situation in which it is placed, we shall be enabled by attention to the soil and climate, and geographical position of the principal parts of Asia, to form some general principles from which to deduce the causes that have influenced the destiny of the nations by which it is inhabited. Without enlightened notions of general geography, history degenerates into a mere detail of romantic adventures, and no valuable progress can be made in political or in commercial science. We shall here therefore give a general description of this vast continent, considering it, as far as possible, as one great whole, the various parts of which have at times possessed an influence over each other; leaving its particular districts and countries, to be separately discussed as they occur in the arrangement of our work, unless in such instances

Asia.

I  
The countries of Asia to be considered as connected with each other.



<sup>1</sup>stances as may seem to claim special notice from the singularity of their nature, or the recentness of the period at which time they have come to the knowledge of the European nations.

<sup>2</sup>Beginning with its north-west corner adjoining to Europe, the boundary of Asia commences at Waigats straits, opposite to the island of Nova Zembla, in what is called the *Northern ocean* or *Icy sea*. From thence the boundary extends southward along the Uralian chain of mountains, which are thus accounted half European and half Asiatic. After leaving these mountains, Asia is understood by geographers to proceed in a south-westerly direction, through the provinces of the Russian empire, till it meets the river Don, where it approaches nearest to the Wolga. Proceeding along the river Don, it enters into the Black sea, which it crosses diagonally, proceeding to the south-west through the straits of the Bosphorus, at Constantinople, and through the Propontis and Hellespont; from whence turning south it proceeds through the Archipelago, and the eastern part of the Mediterranean sea called the *Levant*, to the isthmus of Suez, a narrow neck of land of 60 miles over, which divides Asia from Africa. The remaining part of the western boundary of Asia, is formed by the Red sea or Arabian gulf, which is connected with the Arabian sea, by the strait of Babelmandel.

The southern boundary of Asia, is formed by the great Indian ocean, under a variety of names derived from the different parts of the Asiatic coast, which are washed by its waters. Along the whole of this southern boundary, the ocean and the land alternately encroach upon each other, thereby forming immense bays and gulfs of the ocean, and peninsulated tracts of land. Thus to the eastward of the straits of Babelmandel, the Indian ocean advances northward under the appellation of the Arabian sea, having the peninsula of Arabia on the west, and the western peninsula of India on the east. Penetrating still farther north, it receives the name of the gulf of Ormus, and afterwards of the Persian gulf, which advances very far in a north-westerly direction, having Arabia on the south-west, and Persia on the north-east. The same Arabian sea in its north-eastern extremity, making a slighter inroad upon the land, receives the river Indus on the east of Persia, and is called the gulf of Scindia. To the eastward of the nearest peninsula of India, the same Indian ocean forms a most extensive gulf, called the *bay of Bengal*, bounded on the east and west by the two Indian peninsulas. The farther peninsula stretches to a great distance southward under the name of *Malacca*, beyond which the boundaries of the continent assume in general an easterly direction, more especially after passing the gulf of Siam, immediately beyond Malacca and the gulf of Tonkin, on the boundaries of China and of the farther India. The Chinese empire encroaches eastward upon the great Pacific ocean, which is here the boundary of Asia. Its coasts are sufficiently regular. Its bays and gulfs are trifling when compared with those of the Indian ocean, although towards its northern extremity, the Pacific ocean, under the name of the *Yellow sea*, advances into the continent, forming to the eastward the peninsula of Corea, of moderate extent. After which this eastern ocean passing the isles of Japan, at a great distance to the north, again

encroaches on the land, forming the sea or great bay of Ochotsk, which has the peninsula of Kamtschatka on its eastern side, and the country of Siberia or the mainland of Asia on the west. Beyond Kamtschatka one more gulf is formed in that direction, called the *sea of Anadyr*, terminating in the gulf of Notchen, to which succeeds the peninsula of Tschutski, stretching to the eastward, till it approaches the coast of America at the bay of St Laurence. After which turning to the westward, the Asiatic continent is entirely bounded on its northern side by the Icy sea, forming obscure gulfs and promontories, of which little knowledge has yet been obtained, and which can never be of much importance to the human race.

The great continent whose general outline we have thus slightly traced, must necessarily vary considerably in breadth and length, according to the points from which an estimate of its mensuration is formed. Some idea, however, may be obtained of the territory included in it, from observing that the continent of Asia, from the Hellespont at 26° of E. Long. extends to nearly 190° E. Long. at East Cape, or to the 170° of W. Long. being a line of 164° or 6500 geographic miles, allowing 60 miles to a degree. The extreme breadth of this continent, from the south cape of Malacca, in the 2° of N. Lat. to Cape Severo Vostochnoi, in 77° N. Lat. amounts to about 4500 geographic miles. Hence the length of the continent of Asia is not less than 7583 British miles, and its breadth from south to north is about 5250.

That the relative situation of the nations inhabiting this continent may be rightly understood, it is necessary to remark that the centre of Asia consists of an immense and irregular plain, which is elevated to a vast height above the surrounding countries, and extends some thousand miles in every direction. This elevated region or high level of land, stands aloft like a table, and is supported by a crest or front of lofty and precipitous rocks, which overlook in every direction the surrounding regions. The high level or elevated territory, which these rocks surround and seem to uphold on all sides, constitutes the proper country of Tartary. The climate, even in latitude 27°, which elsewhere is extremely hot, is here very cold, and the soil is barren. In some directions, to the extent of 1000 miles, nothing is to be found but frightful deserts, covered with moving sands, which at times are carried aloft, as in Arabia and Africa, by the winds. They are rendered passable by ridges of mountains which divide them; and the summits of these mountains are covered with perpetual snow. Even where the soil seems more favourable, only the hardiest plants and trees can flourish in this barren region, whose inhabitants have in all ages remained in the pastoral state, subsisting by the produce of their flocks and herds, without engaging in the labours of agriculture.

This vast upland tract, which is probably the highest region of the old hemisphere, and which forms the largest extent of continued elevated land upon the globe, contains in general the tract or countries of the Kalmucs, of the Mongols, Thibet, and Eastern Turkestan, or the original country of the Turks. From the borders of this tract in the centre of Asia, the great rivers of that continent descend towards the ocean in every direction, such as the *Oxus* and *Jaxartes*



Asia. on the west, the *Amur* on the east, the *Ganges* and *Burrampooter* on the south, and the *Oby* and *Jenisea* on the north. The countries that surround this tract are, therefore, justly considered by Major Rennel and others, as a kind of inclined planes or hanging levels, or descents along the skirts of it, seeing the waters flow so regularly and uninterruptedly from it, as from a common center to all the surrounding seas. On the south of this elevated region, are the vast countries of India, descending gradually to the great southern or Indian ocean. They receive from their exposure, the fiercest rays of a tropical sun, and are sheltered by the rocky front of the high country behind them from every northern blast. On the west of the elevated tract, are the countries which formed the ancient Persian empire, and which in like manner descend gradually, though more irregularly, towards the setting sun, and the territory of Europe. On the east of the high table, or elevated central region, is the immense empire of China, descending with its rivers towards the great Pacific or Eastern ocean. On the north of the same region is Siberia, descending gradually to the icy sea. The high country to the south intercepts from Siberia the heated air which might otherwise advance towards it from a more fervid climate, while its gradual descent towards the north exposes it unprotected to every blast that may ascend from the icy regions of the pole, and thus the climate is rendered as much too cold in proportion to its latitude, as India is too hot. The soil, however, of Siberia, is in many places equal in fertility to that of almost any other country of the globe, and it has only been prevented from rising into importance, by the intolerable severity of a long winter, which has always operated as a tax upon the industry of its inhabitants, to prevent any great increase of population. Its rivers are bound up during half the year, under a covering of almost impenetrable ice; and the ocean into which they flow, can at no season be navigated with safety, a circumstance which banishes those resources which an extensive commerce might afford, to compensate the evils of the climate.

7  
Alluvions of the Asiatic rivers.

It may here be remarked, that the rivers which descend towards the south, from the high centre of Asia, through countries subject to periodical rainy seasons, have by their *alluvions*, or by carrying down immense quantities of mud and earth, formed vast fertile plains near the sea coasts, similar in their nature to the Delta, or rich valley of Lower Egypt. Accordingly, in the south of Asia, from Persia to China; near the mouths of the Indus, the Ganges, and other rivers, immense tracts of level country are found, which are periodically overflowed, and which, aided by the warmth of the climate, exhibit a degree of fertility in all the productions of the vegetable world, of which in our temperate and colder regions we have little conception.

8  
Boundaries of the high level.

The high level of which we have now spoken, which is of so much importance both to the geography and to the history of Asia, is bounded, as already mentioned, on all sides by a crest or ridge of mountains adjoining to which are lesser chains of hills, which gradually subside in the neighbouring low countries. The great ridge called *Imaus* by the ancients, or the *Indian Caucasus*, is properly the crest or front of the western

declivity towards Persia. The part of this crest or the front of the high level towards the south was anciently called *Emodus*, and sometimes also *Imaus*, of which it is a continuation. The modern name is *Hindoo-Kho*.—The northern front of the high territory which overlooks the Baikal lake, and the whole length of Siberia, is of immense extent, and is usually called by historians the *Altaic* ridge or chain. The appellation of the front of the same high country towards China is little known to European geographers, but it forms in itself nothing more than a continuation of the ridges of *Imaus* and *Altai* surrounding the high country of *Tartary*.

Asia.  
9  
Chains of mountains proceeding from the high level.

This high country or elevated level, which may with propriety be called *Grand Tartary*, sends forth in different directions various ramifications of itself, or chains of mountains, to the utmost extremities of Asia. Thus it sends forth eastward a chain of mountains to the gulf of Corea to the northward of Pekin. This chain appears like a continuation of the *Altaic* mountains, which may thus be considered as proceeding from the 70° to the 140° of east longitude, or about 5000 miles. Another mountainous chain proceeds north-eastward to the gulf or sea of *Ochotsk* opposite *Kamschatka*. A similar ridge called the *Uralian chain*, proceeds to the north-west, and terminating in the vicinity of *Nova Zembla*, within the polar circle, has already been mentioned as one of the boundaries which divide Asia from Europe. Another chain, better known to both ancient and modern writers, proceeds from *Imaus*, or the front of the great high level, westward under the celebrated name of *Mount Taurus*, and terminates in the Mediterranean sea at the peninsula of *Lesser Asia*. This important ridge has on the one side, or to the south, a great part of the ancient Persian empire, and on the north the great salt lake called the *Caspian sea*, and also the Black sea, with the high country of *Georgia* between them, which anciently received the appellation of the *Grecian Caucasus*.

9  
Chains of mountains proceeding from the high level.

A great tract of low country which lies to the east and to the north of the *Caspian*, and proceeds westward along the shores of the Black sea, also receives from modern geographers the appellation of *Tartary*, and was anciently denominated *Scythia*. Hence what is called *Tartary* must be regarded as consisting of two very distinct tracts of country situated upon very different levels. Eastern *Tartary*, lying beyond the mountains of *Imaus* and southward of the mountains of *Altai*, constitutes the high level or elevated central region of Asia; whereas the country called *Tartary* situated upon the *Caspian* and the Black seas, now sometimes called *Russian Tartary*, is not only situated upon a lower level, but instead of consisting of a horizontal plain, it lies upon a south exposure, and its rivers, such as the *Volga* and the *Don*, descend southward into the *Caspian* and the Black seas, which are placed along the northern basis of the ridge of mountains anciently denominated *Taurus*. Beyond the sources of the *Don* and the *Volga*, however, the country begins to descend towards the polar circle and the icy sea, like the rest of Siberia, of which it partakes the name.

10  
Western Tartary.

In all ages Asia might be divided into two regions; the civilized, containing men who cultivated the soil and lived in cities; and the barbarous, whose inhabitants subsisted by hunting or by the pastoral life. To the

11  
Asia divided into civilized and barbarous.



Asia.

Asia.

the former belonged the three countries which descend from the elevated region of Asia on the east, the south, and the west, forming the empires of China, of India, and the ancient Persian empire, extending to the Hellespont. To the barbarous or uncivilized nations have always belonged the far more extensive tracts of Siberia, of High Tartary, and of Western or the Lower Tartary, which lies to the north of the Caspian sea, of Mount Caucasus, and of the Black sea. On the south-west of Asia also a different race of barbarians, engaged in a great measure in a similar life of pasturage, under the denomination of *Arabs*, have occupied an immense portion of territory; and both of these classes of barbarians, the Tartars of the east and north, and the Arabs of the south-west, have at times acted a most important part in the affairs of Asia, and even of Europe; and by their movements have decided the destiny of nations.

12  
Knowledge of Herodotus concerning Asia.

The knowledge of the ancients concerning Asia appears to have been extremely limited. Herodotus, like all the ancient writers, admitted the existence of a northern ocean, upon the shores of which the Hyperboreans were supposed to exist, a peaceful race of men, upon whom nobody made war, and who never disturbed the tranquillity of other nations. He was also acquainted with the existence of various Scythian, or, as we now call them, *Tartar* tribes, inhabiting the country to the north of the Black sea and the Caspian, and upon the river Jaxartes, which he understood to flow into the lake Aral to the eastward of the Caspian. But Herodotus did not believe in the existence of an eastern ocean, or that Asia was in that quarter bounded by the sea. He also extended Europe indefinitely to the east, including all in that division of the globe that lies to the northward of Mount Caucasus and the Caspian sea. To the eastward of what he called Asia, that is the Persian empire, he considered India as the last inhabited country, asserting, that "the Indians are the people of Asia that are nearest the east and the place of the rising sun." Beyond India he confessed that he knew nothing. "As far as India (says he) Asia is well inhabited; but from India eastward the whole country is one vast desert, unknown and unexplored." In these times, therefore, it is certain that the Greeks knew nothing of the vast empire of China and its dependencies, or of the peninsula beyond the Ganges, which forms the eastern division of India. Indeed it would appear that the elevated region of Tartary formed in these early times an impenetrable barrier which divided the western nations of Asia from those on the east. Neither does it appear that Herodotus was well acquainted with the southern frontiers even of Persia and Arabia. The whole Arabian sea, including the Arabic gulf, was called the *Erythrean* or *Red sea*; but he does not seem to have known that the sea bordering upon the ancient kingdom of Persia or Persia Proper, is itself nothing more than a gulf like that which divides Arabia from Egypt and Ethiopia, to which the name of *Red sea* is now exclusively confined.

13  
The Macedonian expedition falsified the geography of Asia.

It is a circumstance not a little singular, that the visit of Alexander the Great to India through Persia did by no means extend the limits which preceding geographers had assigned to Asia. A correct knowledge of the coast of the conquered empire of Persia was in-

deed acquired, but neither to the east nor to the north was any knowledge gained. The high ridge of Imaus, forming the front of the elevated region of Tartary, was denominated by the geographers of Alexander the *Indian Caucasus*, probably from some obscure notion, that this ridge was a continuance of the mountains of that name between the Euxine and Caspian seas. Beyond India also he admitted of no tract of land whatever, thus making India the most eastern country of Asia, and consequently of the whole earth, although Herodotus had placed a vast desert beyond it. But it is probable that this diminution of territory to the eastward might be a sacrifice to the vanity of Alexander, who wished to imagine, and to make others believe, that he had approached the world's boundary. In another point also the geography of Asia was falsified by the followers of this conqueror. Herodotus had rightly described the Caspian sea as a great lake, but the followers of Alexander imagined they had discovered it to be a gulf of the northern ocean. With this ocean, therefore, they were under the necessity of supposing it to communicate by a narrow channel; a circumstance which led them to limit the continent to a very trifling extension northward. The knowledge which Herodotus possessed concerning the unconnected state of the Caspian in respect of other seas being thus lost, its geographical position as a lake remained unknown in the times of Eratosthenes, Strabo, and Pliny. It was, however, regained in the age of Ptolemy, who restored its form of a lake, but under such dimensions and proportions as demonstrate that the smaller lake, called *Aral*, which is 200 miles to the eastward, was mistaken for a part of it.

The most remarkable feature in the ancient Greek and Roman descriptions of Asia, that is, of the country to the westward of Imaus, and to the south of the Caspian sea, is the high ridge of mountains which they in general denominated *Taurus*. This ridge was to them as it were a line of separation between two worlds, the civilized and the barbarous; or two climates, the warm and fertile, and the cold and barren. As Taurus, however, is at times broken into distinct chains of mountains which occasionally alter their general direction, various names were ascribed to particular parts of it, such as Niphates, Caspius, Paropamisus, Caucasus, Emodus, &c. The general chain, however, or the Taurus of the ancient geographers, originated in the south-west extremity of what they called *Asia Minor*, that is, the small part of Asia embraced between the Euxine or Black sea on the north, the straits of the Hellespont, and the Dardanelles on the west, and the Levant, or eastern part of the Mediterranean sea on the south. The ridge of Taurus was understood to pass eastward through Lesser Asia at no great distance from the shores of the Levant. From thence, in its course eastward, it separated Armenia from Mesopotamia, the two countries called *Media* from each other, and the greater Media from the narrow tract along the southern border of the Caspian sea. Opposite to the south end of the Caspian its inferior ridges were divided by a vast chafin called the *Caspian straits*, which was with the ancients an important geographical point, being supposed to be in the same parallel with Iffus and Rhodes. This remarkable chafin or strait formed the best road or passage from Media, Mesopotamia, and the western

14  
Mount Taurus of the ancients.

15  
The Caspian strait.



<sup>15</sup> *Asia*. western countries in general, to Parthia, Hyrcania, Aria, and others on the east, because by it considerable deserts to the south might be avoided. Alexander the Great passed through it in his way from Rages towards Aria and Bactria. It is at present called the *Strait of Khoovar*, from a town or district in the neighbourhood, and is almost due north from Ispahan: it is eight miles through, and is in general not more than 40 yards in breadth. Pliny says that it is only wide enough for a carriage, and modern writers have said that where it is narrowest and most winding a litter can scarcely pass. The mountains are very lofty on each side. The bottom is upon the whole flat, and at certain seasons a considerable stream of salt water flows along it towards the desert on the south.

After having passed the south-east corner of the Caspian, Taurus proceeding farther eastward, was understood by the ancients, and represented, as separating the countries of Parthia, Margiana, and Bactria, on the north, from those of Aria, Drangiana, and the north-western provinces of India, watered by the heads of the Indus. Here Taurus was known to meet the lofty ridge of Imaus, which we have already mentioned as the western front of the elevated region that forms the centre of Asia. But as this general account of the opinions of the ancients concerning the course of these mountains can give little idea of the general level of the countries through which they pass, we shall here notice more particularly the elevation of these countries, and the way in which they are divided from each other. In doing so we shall chiefly follow the authority of the learned and accurate Major Rennell; and we prefer the use of ancient appellations to the names assigned to these provinces by the barbarians who now inhabit or rather wander over them.

<sup>16</sup> Elevation or level of countries westward from Imaus.

We have said, that from Imaus, or from the high region of central Asia, or Great Tartary, the country descends gradually towards the west, forming what was called *Asia* by the ancients, but what was in truth little more than the Persian empire. In departing from Imaus, however, the country is very elevated, and various ridges occur, which gradually, after assuming a variety of forms, unite in the ridge which terminates far to the west at the extremities of the Lesser Asia, and was called *Mount Taurus*, as already stated. In their progress the valleys or ordinary country near these mountains gradually becomes lower as it proceeds towards the west, and the mountains themselves decline in height. Even in the west, however, the mountains appear not a little elevated.

<sup>17</sup> Most westerly territory lowest.

Returning from the west, or beginning with the peninsula of Asia or Asia Minor, which is enclosed on three sides by the Mediterranean, Ægean, and Euxine seas, it is to be remarked that even this tract acquires speedily a considerable elevation; but the southern part of Lesser Asia towards the Mediterranean is by far the highest, being the proper Taurus itself, rising abruptly from the neighbourhood of the sea-coast, and turning the courses of the principal waters towards the Euxine sea on the north.

<sup>18</sup> Second portion higher.

The next portion of territory is still more elevated, extending from the Euxine to the Caspian sea. To the north it sends forth a tract of very mountainous country called *Caucasus*, or the modern Georgia, which overlooks the Sarmatian plains, or, in other words, the

desert of Afracan, and the country of the Tartars called *Don Cassack*, being the low lands on the north both of the Euxine and Caspian seas. Southward this high region, which is a part of the Taurus of the ancients, overlooks the vast low countries, in which are contained the kingdoms or states of Syria, Mesopotamia, Assyria, and Babylonia, and even the great Arabian desert. The ancient divisions of this high region were called Cappadocia, Armenia, Pontus, Colchis, Iberia, Albania, the country of the Carduchians, and a part of Media. It seems to be the highest continued tract of territory in Western Asia, giving rise to the rivers Euphrates, Tigris, Cyrus, Araxes, Hypanis or Kuban, and Phasis, which flow from it in different directions towards the Euxine or Caspian seas, or the Persian gulf. It is worthy of remark, that in the higher parts of this region two great salt lakes are to be found.

*Asia*.

Advancing eastward is a third portion of still more elevated territory, extending from the Caspian sea to the lofty Imaus, or western crest of the great Asiatic highlands. This third region is still higher than the two former parts of the tract of Mount Taurus. Its breadth is very various. Its western quarter is limited by the approach towards each other of the Caspian and Persian seas; but the high country expands to a much greater breadth beyond the Caspian, till it is again narrowed on its approach to Imaus by two valleys, along the one of which flows the river Indus to the south, and along the other the Oxus to the north-west, anciently terminating in the Caspian sea, but now in the sea or lake of Aral. Of this third portion of the high country of Western Asia the northern part between the Caspian sea and Mount Imaus contains the ancient Parthia, Margiana, and Sogdiana, which overlook towards the north the low countries of Western Tartary in that quarter called *Chorasania*, and the seats of the Massagetæ (the ancient Magog) at the Jaxartes. The middle part of the high country contains Aria and Bactriana, adjoining on the east to Mount Imaus. The southern part of the same elevated region contains Persia Proper, Carmania, Arachosia, &c. which towards the Persian gulf are bordered by the low tract of Maritime Persia. The highest continuous ridge of this territory is that which passes by the south-east of the Caspian sea and Hyrcania, between Drangiana on the south and Aria on the north, and from thence between Bactriana and the provinces of India; where, as it approaches Imaus, which, as already stated, is the front of a yet more elevated region, it swells to an immense magnitude and height, and is covered with snow annually till the month of August.

<sup>19</sup>

<sup>19</sup> Eastern tract higher.

From this tract of elevated country, which we have thus described as gradually increasing in height from the Mediterranean to Mount Imaus, various lateral ridges project towards the south, forming between them different hollow basins or low countries. But these southern projections are not equal in altitude to the great chain that proceeds from west to east. The most westerly of these cross ridges is that which begins from the body of Taurus, near the place where it is crossed by the Euphrates, at the northern extremity of Syria. This ridge proceeds to the south, inclining to the west, and forms a kind of mound or dam, skirting the eastern shore of the Mediterranean, under the

<sup>20</sup>

<sup>20</sup> Lateral ridges of Taurus.

names



Asia.

Asia.

names of Amanus, Lebanon, &c. Having passed the Mediterranean and the southern border of Palestine, it advances to the eastern coast of the Red sea, where it spreads out, and forms the centre of Arabia, finally terminating in what is called *Arabia Felix*, or the southern part of the Arabian peninsula.

Farther to the east another ridge proceeds towards the south, which was called by the Greeks *Zagros*, and advances to the neighbourhood of the Persian gulf. Between this last ridge on the east, and the former, or Syrian ridge, on the west, and Taurus on the north, is a great valley or tract of low country that formed the ancient empire of Assyria, which was guarded in this manner by a wall of mountains on three sides, and by the Persian gulf and the Arabian desert on the fourth. It is watered by the fertilizing streams of the Tigris and Euphrates, upon which Nineveh and Babylon formerly stood. To the eastward the country becomes more dry and elevated. Passing through Media, a great salt desert occupies the centre of the country, having Persia Proper on the south, and Parthia on the north, and continuing still to ascend, the mountains become more numerous and less regular, in proportion as they approach Imaus. These regions, however, are of great importance in ancient history as the seats of civilization and of empire, though they are now sunk into obscurity, and a prey in a great measure to tribes of barbarians, who wander over them with their flocks and herds, and reside in tents. The eastern part of the countries known to the ancients, as Asia, or rather as the Persian empire, still retains that name; but to the westward of the Euphrates Asia belongs to Turkey, excepting the great country or peninsula of Arabia, of which we shall here take some general notice.

21  
Arabia.

This country is worthy of the utmost attention in a historical point of view, on account of the influence which its inhabitants have had upon a great part of the nations of Asia, and consequently upon a large portion of the human race. They have contrived to extend themselves farther over the world than almost any other people, and have preserved in all situations more strongly than other nations their language, religion, manners, and peculiar customs. From the river Senegal, on the west coast of Africa, to the Indus, colonies of Arabs are to be met with, and also from the heads of the Euphrates on the north to the island of Madagascar. Even the Tartar hordes have scarcely occupied a wider extent on the globe.

22  
Boundaries of Arabia.

Arabia, properly so called, is that great peninsula formed by the Red sea, or Arabic gulf, on the west, the Indian ocean, or Arabian sea, on the south, and the Persian gulf on the north-east. Accordingly the ancients appear to have comprehended under the name of Arabia the whole tract lying between those seas and a line drawn from the point of the Persian gulf to that of the Arabic gulf. This line, however, was never the real boundary of the country, which appears to have at all times extended northwards to a great distance, and to have been limited on one side by the river Euphrates, and on the west by Syria, Palestine, and the isthmus of Suez. Thus Arabia may be regarded as a vast but irregular triangle. From the northern point at Beles, where Xenophon and the Greeks first passed the Euphrates to the straits of Babbelmandel, is a line of 1500 miles, forming the west-

ern side of the triangle, while its southern basis presents a front of 1000 miles to the Indian ocean. The medium breadth of the peninsula from Bassora on the Persian gulf to Suez on the Red sea is upwards of 700 miles. The entire surface of the country, therefore, exceeds France or Germany in a fourfold proportion.

Being situated from 13° to 30° of N. Lat. and of consequence partly between the tropics, its climate must necessarily be regarded as hot. In some provinces, indeed, the heat is excessive; but in this country, as in others, the degrees of elevation of the soil produce effects upon the temperature which set aside all calculations that might be founded upon the general principle of the vicinity or remoteness of the torrid zone. To understand the varieties of climate that exist in Arabia, it is necessary to attend to the form and aspect of its surface. The whole centre of the Arabian peninsula, or interior country, consists of a succession of mountains. Around the foot of these mountains, adjacent to the sea-coast, is a belt of flat ground. This belt surrounds the whole of the Arabian peninsula. It proceeds along the shores of the Red sea, of the Indian ocean, and of the Persian gulf. Even the desert of Syria on the north may be considered as a part of this belt. It extends everywhere to the distance of about two days journey from the sea, and is denominated *Tebama* by the Arabs. This belt of flat land is dry and sandy, and presents one unvaried picture of desolation. It bears every mark of having been anciently a part of the bed of the sea. Its bottom soil is a greyish clay, with a large proportion of sand, and having remains of marine animals interperfed to a great distance from the shore. It contains large strata of salt, which in some places even rise up into hills. Its regular inclination towards the sea indicates that it has emerged gradually; and the sea seems still continuing to recede. The banks of coral are still increasing, and coming nearer to the shore, so as to render the navigation round Arabia every day more and more dangerous. The sand accumulated by the billows gradually fills up the intermediate space, and joins these beds of coral to the continent. This recession of the sea, however, or conquest over the watery element, has produced little advantage to man. The *Tebama* is everywhere a frightful desert of sand, diversified only by naked rocks, with nothing to soften the force of the sun's rays, and in which all vegetation is burnt up. The drought is so extreme in these flat plains that whole years pass without rain; and the torrents which descend from the hills, which occupy the interior of the country, are lost among the sands long before they can reach the sea.

In the interior country, the soil and climate are very different. The great ranges of lofty mountains attract vapours, which, descending in abundant rains, cool the air, and quicken vegetation. The cold occasioned by the height of the country produces falls of snow, but this never lies long upon the ground. While the inhabitants of the plains suffer by heat, those of the hills are obliged to wrap themselves in pelices; but as the hills or mountains are by no means of the primary order in point of elevation, ice and steady frost seems to be unknown. The soil, however, is as much diversified as in other countries; but the figure of the hills is unfavourable to their fertility. They are in general



Asia.

so craggy and precipitous as to afford little space or soil for vegetable productions, the best part of the soil being continually washed away by the waters. Hence the culture of the land is difficult and expensive. Terraces must be formed, and the soil carefully preserved and accumulated upon them; so that, upon the whole, no part of Arabia can with any propriety be denominated rich or fertile. In the southern division of it, called by the ancients, by way of eminence, *the Happy*, or *Arabia Felix*, the inhabitants are at once industrious and poor. The desert between Syria and the Euphrates, or that part of Arabia which extends to the northward of the peninsula, is altogether incapable of improvement by culture. A wide level of sand is only intersected by sharp mountains destitute of verdure, which render more powerful by reflection the intense rays of an almost tropical sun. The rare and hardy plants, the tamarind, or the acacia, that strike their roots into the clefts of the rocks, are nourished by the dews of night. A grove of date trees, or a green pasture, attracts a small colony of Arabs; and a well of water is a place of importance and of resort.

Yet this desert is not destitute of a tolerable number of inhabitants. They rear the camel, a strong and patient beast of burden, which subsists on the most stunted and withered roots, or upon herbs of the gourd species, which abound in the driest countries. Neither are they destitute of horned cattle, and goats and sheep; and naturalists consider this as the native country of the horse, which is the peculiar favourite of the Arabians.

53  
Two classes  
of Arabs.

Properly speaking, there are two kinds or classes of Arabs, the one sedentary, that is, living in cities, or attached to husbandry, and the other, wandering in the pastoral state, called *Bedouins*. The Arabs settled in cities, and especially in sea-port towns, have lost somewhat of their distinctive national manners by their intercourse with strangers; but the Bedouins, who live in tents, and are divided into tribes or clans, retain the customs and manners of their earliest ancestors. They are the genuine Arabs, and possess in the aggregate all those characteristics of which the other branches of the nation exhibit different shades and degrees. It is the difference in their ways of living that constitutes the great distinction between the different tribes. The genuine and nobler Arabs disdain husbandry, as an employment by which they would be degraded. They maintain no domestic animals but sheep, camels, and horses. Hence it is known, that Mahomet, the founder of their religion, belonged to a noble tribe or race, because he was a dealer in camels. Some tribes are even mentioned contemptuously by their countrymen, because they keep cows or dromedaries; and the peasants who cultivate the soil are accounted the lowest class. Even among the tribes which apply to agriculture, the chiefs live always in tents, and leave the culture of their grounds to their subjects, whose dwellings are miserable huts.

In the interior of Arabia, towards the Indian ocean, which is chiefly the quarter capable of being cultivated, some governments exist of a considerable extent; such as, Yemen and Hadramant, and Oman. In these the people are of a mild and civilized character. A stranger travels unprotected and alone with as much

Asia.

safety in any country in Europe. The only danger of imposition or of ill usage occurs in the sea-port towns, from the officers of government. Here also the religion of Mahomet exhibits a less intolerant aspect than in Turkey, Africa, or almost any other country. Indeed it is not a little singular, that while this religion extended itself to the pillars of Hercules, to the mouths of the Ganges, and to the extreme regions of Tartary, several tribes of native Arabs, secure in the faithfulness of the rugged mountains, regarded it with indifference or contempt. Some tribes in the interior could never be subdued by the power of the caliphs, and retain the worship of the heavenly bodies, as in the times of their ancestors. Even a tribe of Jews has existed for ages amidst these inaccessible mountains, though the most odious of mankind in the eyes of the surrounding Mahometans.

The Bedouins, or wandering Arabs, who constitute the body of the nation, are divided into an endless variety of tribes. Their chiefs, whether high or low, are denominated *schiecks*. These schiecks, or nobles, are very numerous, and the plebeians are invariably actuated and guided by them: They are both shepherds and soldiers. The dignity of schieck is hereditary, but is not confined to the order of primogeniture. The petty schiecks, who form the hereditary nobility, choose the grand schieck of any district out of the reigning family, without regarding the degree of his propinquity to his predecessor. They pay him little or no revenue, and the other schiecks are rather his equals than his subjects. If dissatisfied with his government, they depose him, or go away with their cattle, and join another tribe. These emigrations, which happen not unfrequently, produce great revolutions among the tribes. Even the peasants possess a similar privilege. Though underfoot to be slaves, they may quit the service of a master with whom they are dissatisfied, and choose another. It was remarked in the time of the Romans, that the Arabs were at once addicted to robbery and to commerce; a fact which holds true to this day. They become the faithful servants of the merchant, who hires them to conduct him through the desert; while at the same time they are extremely apt to consider the property of unprotected travellers as an object which they may lawfully seize. But it may also be remarked, that we are sometimes apt to consider as robbery what the Arabs view in another light. Every grand schieck, or schieck of schiecks, as he is called, considers himself as the absolute lord of his whole territory, and exacts duties upon all goods carried through his dominions. The Europeans are wrong when they suppose the sums paid by travellers to the grand schiecks to be a ransom to redeem them from pillage. On the contrary, it is regarded by the Arab nobles in no other light than as the duties levied in other countries by princes for the support of the government. The southern part of Arabia, called by the ancients *Arabia Felix*, has at times been subdued by strangers; but the Bedouins, who live in tents in the desert, do not appear to have ever been effectually conquered. In a contest with them, much is hazarded, and little can be won. Their horses and camels, which in eight or ten days can perform a march of 400 or 500 miles, disappear before a victorious army. The secret waters of the desert elude  
the



<sup>24</sup> **Asi.** the search of the invader, and his troops are consumed by hunger, thirst, and fatigue, in the pursuit of an invisible foe, who mocks his efforts, and at all times finds safety in the midst of a burning solitude.

<sup>24</sup> How far connected with foreign states.

Notwithstanding the memory of their ancient independence, even the wandering Arabs are frequently tempted to settle near towns, or in fertile provinces; which has in different ages brought them into subjection to the sovereigns of these provinces. Their neighbours, also, such as the Persians, the princes of the Greek empire, and the modern Turks, have contrived to acquire an influence over some of the tribes, by fomenting dissensions among the great families, and espousing the cause of pretenders to the dignity of grand schieck. Accordingly the Turks allege that they are the sovereigns of Arabia; but this is no more than a vain-glorious assertion, which is so far from being true, that they find it necessary to pay the usual tribute to the schiechs when their caravans pass through the desert to Mecca. The tribes who live near the road keep the wells open, permit the passage of merchandise, and escort the caravans. Quarrels, indeed, often occur, in which the rapacity of the Bedouins is seldom more remarkable than the insolence of the Turks, who regard all the Arabs as rebels. The famous Ali Bey, when he conducted the Egyptian caravan, would not pay all the duties on his way to Mecca, but promised to pay the rest on his return, and forgot his promise. On the year following the Arabs assembled in greater numbers, and obliged the captain of the caravan to pay both for himself and Ali Bey. The Turks exclaimed against this as an act of robbery; yet the Arabs had only done themselves justice. The conduct of Abdalla, pacha of Damascus, who commanded the Syrian caravan in 1756, was still more odious. When the schiechs of the tribe of Harb came to meet him to receive the stipulated toll, he gave them a friendly invitation to visit him; but instead of paying the toll, he cut off their heads, and sent them to Constantinople, as a proof of his victory over the rebel Arabs. The stroke which they had thus suffered, by the death of their chiefs, hindered them from attempting any thing in revenge, on either that or the following year: The caravans travelled in triumph to Mecca, and the Turks boasted of the valour and prudence of Abdalla Pacha. But in the third year the Arabs avenged the slaughtered schiechs, and, with an army of 80,000 men, raised out of all the tribes, routed the Turks, and pillaged the caravan.—Thus the Arabs, notwithstanding their internal divisions, consider themselves on extraordinary occasions as one nation. A certain subordination even subsists among the tribes: The petty tribes being unable to defend themselves, place themselves under the protection of the greater, and are governed by their laws; and thus are powerful tribes formed by the union of several small tribes.

<sup>25</sup> Character and food of the people.

The climate and barren soil of their country has a considerable influence on the general character of the Arabians. They are an extremely sober and frugal nation, which produces in them an appearance of leanness and stunted growth. The usual articles upon which the better sort subsist are, rice, pulse, milk, and butter: their most common species of butcher's meat, but they seldom eat of it, as all kinds of animal food are accounted unwholesome in these hot

countries. The common people have little other food than a kind of bread made of *durra*, a sort of coarse millet, by kneading it with camels milk, oil, butter, or grease: They also use barley bread. Like the other natives of the warm regions of Asia, they have less restlessness or natural desire for exercise than the natives of the colder countries of Europe; and this inactivity is, no doubt, increased by their general habits of abstinence and extreme frugality with regard to food. They are astonished when they observe the quantity of all kinds of meat that Europeans devour at a meal, and account them guilty of the most odious gluttony; for they themselves, at least the wandering Arabs, are not only taught from their youth to live upon little, but even to accommodate themselves to any kind of food. Hence locusts are in common use among them, and have a considerable influence upon their condition. Immense clouds of these animals sometimes descend upon a district, and produce the greatest mischief, by destroying the whole verdure. They darken the air, and appear at a distance like clouds of smoke. The noise of their flight is stunning, like that of a waterfall. Every thing that is green is wasted by them; but corn, either ripe or nearly so, is too hard for their use. The Arabs of the desert convert this scourge to their advantage. They roast the locusts alive, and devour them eagerly; or they kill and dry them, and store them up for use: This food is said to be by no means unwholesome. The Jews of Arabia assert, that the fowls, of which the Israelites ate so largely in the wilderness or desert, were only clouds of locusts; and they ridicule our translators, for supposing that they found quails where quails never were.

<sup>26</sup> **Asi.**

In Arabia polygamy was always tolerated, and is <sup>26</sup> Their conduct permitted by the law of Mahomet; but the Arabians are, in general, too poor to avail themselves of the privilege of possessing a plurality of wives. The law, however, has this effect, that it often induces the rich to give their daughters to poor men in preference to those who are wealthy. The marriage articles are made out before the *cadi* or judge. The wife's property is secured to her even during the marriage, so that she becomes absolute mistress of her husband's house; and he, having no separate property, can have no means of bringing another wife into the family. All women, however, in Arabia live in a most retired manner. They receive no visits from strangers of the other sex. In the houses of the rich the front apartments belong to the men, and those behind to the women. In the houses of persons of inferior rank, destitute of a variety of apartments, when the husband carries a stranger to his house, he enters before him, and calls aloud, *tarik*, retire; upon which the women instantly disappear; and even his most intimate friends never see one of them. Their notions of the delicacy necessary to be observed, with regard to women, is extreme. It is accounted unpolite to salute a woman, or even to look her steadfastly in the face. In the neighbourhood of the city of Barra an adventure occurred which displays in strong colours the jealousy of the Arabians in whatever concerns the other sex. A man of eminence, belonging to the tribe of Montefidi, had given his daughter in marriage to an Arab of the tribe of Korne. Shortly after the marriage a schieck of an inferior tribe asked him in a coffeehouse, whether

<sup>27</sup> Jealousy.



Aſia.

whether he was father of the handsome young wife of such a one, whom he named? The father supposing his daughter's honour ruined, immediately left the company to stab her. At his return on the execution of this inhuman deed, he who had so indiscreetly put the question, was gone. Breathing nothing now but vengeance, he sought him everywhere; and not finding him, killed in the mean time several of his relations, without sparing even his cattle or servants. The offender offered the governor of Korne a great sum, if he would rid him of so furious an adversary. The governor sent for him who had been offended, and endeavoured by threats and a show of the apparatus of punishment to force him to a reconciliation; but the vengeful Arab would rather meet death than forego his revenge. Then the governor, to preserve a man of such high honour, soothed him to an agreement, by which the first aggressor gave his daughter, with a handsome portion, in marriage to him whom he had offended. But the father-in-law durst never after appear before his son-in-law.

28  
Their vindictive spirit.

Revenge is indeed among the Arabs a most ungovernable sentiment. In some of the states of the southern part of the peninsula the government is strong enough to restrain private revenge, and to assume to itself the punishment of crimes, as in other civilized countries; but over a great part of Arabia the relations of a person slain are allowed to accept a composition in money, to require the murderer to surrender himself to justice, or to avenge themselves on him or his family. The passion of avarice is often found to afford, among barbarians, the best means of subduing animosity; but in many places among the Arabians it is accounted disgraceful to take money for the shedding of blood, which, by their laws of honour, can be expiated only by blood. Their refined malice even refuses to be satisfied by the destruction of the assassin either by their own hands or by the hand of public justice; for this would be to deliver from an unworthy member a family which deserves no such favour from them: hence they revenge themselves, as custom allows, by substituting an innocent to the guilty person, and seek an opportunity of slaying the chief or the most considerable person of the race of him by whom they have been injured. When a murder has been committed, therefore, the two families are in continual fears till some one or other of the murderer's family be slain. Till this occur no reconciliation can take place, and the quarrel is occasionally renewed. If in the contest a man of the murdered person's family happen to fall, there can be no peace till two others of the murderer's have been slain, and there are instances of such family feuds lasting forty years.

Nor is the point of honour confined to such cases as those we have now mentioned. The noble Bedouins carry their pride higher than even our barbarous ancestors seem to have done. If one schieck says to another, with a serious air, "thy bonnet is dirty," or "the wrong side of thy turban is out," nothing but blood can wash away the reproach; and not merely the blood of the offenders, but that also of all the Arabs of his family. An insult offered to the beard of an Arab is regarded with equal indignation, and produces equal resentment.

When these capital points, however, are avoided,

the Arabs are understood to be by no means quarrelsome. They take a pride in preserving their coolness of temper against reproachful language. When a dispute happens suddenly to arise among them, they make much noise, and are apt to forget themselves, and to proceed to extremities; but should an indifferent person calmly say to them, "think of God and his prophet," they instantly make an effort to resume their tranquillity, and a reconciliation is effected. If this contest cannot be settled at once, they choose arbitrators to whose decision they submit.

Aſia.

The manners of the Arabs are grave and serious. As soon as boys attain to five or six years of age, they pass whole days together in their father's company, and are indeed allowed to be as seldom out of it as possible. Being thus always under the eyes of persons advanced in life, they acquire a pensiveness and gravity of manners, and an air of recollection, at a very early age. Their imaginations being accustomed to barren deserts and bare rocks are apt to acquire a gloomy cast; but in Yemen or Arabia Felix, where the soil is more fertile and the population more considerable, they possess sufficient vivacity of character, and are extremely fond of society. In the towns of Syria in which they settle they are far more cheerful and fond of amusement than the Turks. Both there and in Arabia Felix they are fond of frequenting coffeehouses and public markets.

29

Manners.

In the earliest ages the Arabians were always accounted admirers of poetry, and were accustomed to celebrate in verse the military exploits of their chiefs. The genius and merit of a rising poet was rewarded by the applause of his own and of the kindred tribes; and they regarded him as a herald risen up to immortalize their renown. Before the days of Mahomet there existed an institution which the foundation of his first followers abolished. An annual fair was held, to which the most distant or hostile tribes resorted, and which lasted thirty days. For some time before and after this fair, amounting in all to two, or as some say, to four months, a general truce took place; during which every public and private quarrel was suspended throughout the whole extent of Arabia. This truce was sanctioned by the laws of honour; and, as a breach of it was attended with perpetual infamy, every sword was religiously sheathed while it lasted. At this great market not only corn and wine, but also eloquence and poetry were exchanged. The prize was disputed by the emulation of the bards, and the victorious performance was deposited in the archives of the prince; and, on some extraordinary occasions, inscribed in letters of gold, and suspended in the temple of Mecca, which even in these early times was a place of national pilgrimage. Generosity and valour formed the favourite theme of the songs of the Arabian poets; and their keenest satire or bitterest reproach against a despicable race, consisted of the affirmation, that the men knew not how to give, nor the women to deny. Such a festival resembling, in some measure, the Olympic games of the Greeks, must have possessed considerable influence in humanizing the manners of the people. As the northern part of Arabia was situated in the very centre of the most civilized nations of antiquity, whose caravans must have been continually passing through it; its inhabitants, therefore, could not fail

30

Literature.

at



Asia.

Asia.

at a very early period, to acquire some portion of that information which an acquaintance with intelligent strangers brings along with it. As a commerce with India appears at a very early period to have been carried on by sea from the southern parts of the peninsula, it is probable that such a portion of literature as might be requisite for conducting its transactions would be cultivated by the Arabians in a very distant antiquity. Literature however was never diffused to any great extent in this peninsula. In the northern parts, indeed, or in the Syrian desert, where the Roman and Persian empires flourished on each side, the Arabian city of Palmyra appears to have received and cultivated the learning and the arts of Greece, and at a future period, when the successors of Mahomet carried their dominion into other countries, in which they settled and pursued the arts of peace; the Arabian conquerors cultivated various branches of literature. At all times, however, the desert itself, or the native country of the Arabians, has exhibited an illiterate race of men. At present their youth are not indeed entirely neglected. The chiefs of the desert can frequently read and write, and in the cities many of the lowest of the people possess these qualifications. They have schools in their mosques for the education of the poor; and in great towns there are schools to which persons in better circumstances send their sons, but no girls attend the public schools, being privately taught at home by women. The Arabians can scarcely be said to possess any science. Astronomy is somewhat valued by them, but only in subserviency to astrology, a science highly esteemed and very lucrative in the East, though prohibited by the Mahometan law. From their ignorance they are indeed extremely fond of what are called the *occult sciences*, which are supposed to enable their possessors to become familiar with genii, and to oblige them to obey their pleasure, to teach how to command the winds and seasons, to cure the bites of serpents and many diseases or infirmities. A great part, however, of these occult sciences have appeared to strangers to be nothing more than tricks, which the credulity of the people induces individuals to practise upon them. The Arabians are also extremely superstitious. It frequently happens that a town has been reared on the spot which it occupies merely in consequence of its having been the dwelling place of some Mahometan hermit or saint. In this way the city of Loheia was founded. Its founder and patron was a saint called *Schieck Sa'ei*, who spent his days in a hut on the shore of the Red sea. A house of prayer was afterwards raised over his tomb, and some devout persons imagining it would be a great happiness to live near the remains of so holy a person, built huts around it. Nearly at the same time the sea having retreated from a neighbouring harbour, an accident which is always happening on the Arabian coast, the inhabitants deserted it, and settled at Loheia, which is now a well-frequented port. In the same way the city of Beit el Fakeh originated around the tomb of a saint called *Achmed ibn Musa*. Some devout persons built themselves cottages round his tomb, and the harbour of Galefka being about the same time choked up, the inhabitants of that city removed thither. This saint was a great worker of miracles. A Turkish pacha, who had been for 20 years a captive in Spain, where

he was bound with ponderous chains to two large stones, long and vainly invoked the aid of different saints. Last of all he bethought himself of the great Achmed, and invoked him also in his turn. The saint stretched out his hand from his tomb; and at that very instant, in the presence of many witnesses, the pacha arrived from Spain, bearing with him his chains and the stones to which they were fixed. This miracle took place not many years ago on the eve of the festival of the saint, and the Arabs regard it as authenticated by unexceptionable evidence, notwithstanding all prayers or invocations to saints are strictly prohibited by the Koran. Another miracle performed by Ismael Mulk, the patron saint of the city of Taees, is easily accounted for. Two beggars had asked charity from the dola or governor of Taees, but only one of them had tasted of his bounty. The other went upon this to the tomb of Ismael Mulk to implore his aid. Ismael, who, when alive, had been very charitable, stretched his hand out of the tomb, and gave the beggar a letter containing an order on the dola to pay the beggar an hundred crowns. Upon examining this order with the greatest care, it was found that Ismael Mulk had written it with his own hand, and sealed it with his seal. The governor could not refuse payment, but to avoid all subsequent trouble from such bills of exchange, he had a wall built inclosing the tomb.

In the southern parts of Arabia the posterity of the saints are treated with as much respect, as is shewn to the descendants of Mahomet at Mecca, which is very great. Every person who can number a reputed saint among his ancestors, is dignified with the title of *Schieck*, and accounted an ecclesiastic by birth. Families thus find it their interest to establish, by every possible means, the sanctity of the person from whom they are descended, and to maintain the authenticity of the miracles ascribed to him. In this manner, in spite of the Koran, which is strictly unitarian, the superstitious worship of saints is daily extending its influence among the Arabs, and feigned miracles are consequently multiplying, so that they may be said in some measure to be relapsing into the polytheism of their ancestors. At the same time it is to be observed, that within these forty years a sort of reformation of religion has been attempted, and even accomplished, in a part of the central or mountainous country of Arabia, by one Abdul Wahheb, in whose family a sovereignty of considerable extent has been established. He taught that God, as the creator and governor of the world, is the only proper object of worship. He forbade the invocation of saints, and the very mention of the name of Mahomet, or of any other prophet, in prayer, as practices favouring of idolatry. He forbade the making of vows to obtain deliverance from danger, as a crime against providence. He represented Moses, Mahomet, Jesus Christ, who were respected by his countrymen as prophets, as merely great men, whose history might be read with improvement; denying that any book was ever written by divine inspiration, or brought down from heaven by the angel Gabriel.

In thinly-peopled countries men can afford to be <sup>32</sup>hospitable to strangers, because they see them seldom, and charity. In Arabia, however, this virtue is still more valued than elsewhere. Poverty is a misfortune very general among



Afia. among the people of this country; and when travelling through their deserts they are apt to suffer great hardships both from hunger and thirst. Hence among them kindness to strangers, and charity to the poor, are the most popular of all virtues, and a breach of the sacred laws of hospitality is productive of the most indelible dishonour. The rapacity even of an Arabian robber is checked by the influence of this law, and an enemy is safe with those who have consented to taste along with him a morsel of bread. On the whole it appears that the inhabitants of this great territory, though in general barbarians, are yet of a mixed character. A part of them have in every age participated the civilization of the countries in their neighbourhood; and though the tribes of the desert have been always in some measure independent, and governed only by their own fancy or prejudices, yet they have always acknowledged a connection with the rest of the nation that reside in towns, or that cultivate the soil. Though labouring under a degree of that tendency to indolence which is common to rude nations, yet their poverty and the hardships to which they are inured, prepare them for the toils of war, and render them capable of enterprise.

33  
Persia.

Of the present Persian empire, in a general view of Asia, it is unnecessary to take much notice. Both sides of the Persian gulf are to some distance possessed by the Arabs, and the interior provinces have sunk into decay under a long succession of military usurpations. Cultivation is in a great measure confined to the near neighbourhood of a few towns; and a considerable part of the open country is used for the pasturage of the cattle of wandering hordes of barbarians that have descended from Tartary, and that now occupy these seats of ancient civilization and riches.

34  
River Sind  
or Indus.

We have already remarked, that between the Persian gulf on the south, and the Caspian sea on the north, but nearest to the Caspian, a chain of mountains, the celebrated Taurus of the ancients, proceeds from the straits of the Dardanelles eastward to the front of the high central region of Asia called *Imaus*. After passing the Caspian sea and the Persian gulf, these mountains widen to a great extent, and the middle ridge, as it reaches *Imaus*, becomes very elevated. This middle ridge appears to be crossed by no rivers, and accordingly the streams which descend from itself, or from *Imaus* on the northern side of it, proceed in a north-westerly direction to the Caspian or the lake Aral. These are chiefly the Oxus and the Jaxartes. To the south of the middle ridge of Taurus, the rivers descend southward to the Arabian sea or Indian ocean. The principal river that descends southward from the western or south-western front of *Imaus* is the river Sind or Indus, the upper branches of which approach very near to those of the Oxus; and it may be proper here to remark that the present commerce between the Russian empire and India proceeds in this channel. The merchants, after leaving the Caspian sea, travel in caravans or bodies up the river Oxus and down the river Indus. In the mountainous country near the western and south-western front of *Imaus*, are several beautiful valleys, which in all ages have been the admiration of travellers. Among these we may mention between *Imaus* and the Caspian, the valley or country of Sogdia with its capital Samarcand. This country was in ancient

Afia. times accounted by the orientals a terrestrial paradise, possessing all the fertility of a torrid climate with the salubrity of the coldest regions. Not less remarkable, upon the south-western front of *Imaus* on one of the heads of the river Indus, is the valley of Cashmere, which in every age has been the happy valley of the Indian poets, or the paradise of Hindoostan. It is of an oval form, about 80 miles in length and 40 in breadth, and is supposed to have been once filled with water, which having burst its mound, left this valley fertilized to the most distant ages by the mud which had been deposited in it. The emperors of Hindoostan frequently visited it to forget the cares of government, and to collect new health and vigour from the salubrity of the air and the beauties of the place. In 1664 Aurengzebe went thither for this purpose from Agra his Indian capital. M. Bernier attended in quality of physician to one of his omrahs. The train of the emperor was extremely splendid. The heats on the march were dreadful, as the lofty mountains that skirt the front of the high region of Tartary prevent the cool air of the north from descending to refresh the parched plains of India. A vast mountain called *Bember* divides Cashmere from India. The southern side of this mountain is steep and arid. The procession encamped in the channel of a large torrent dried up, full of sand and stones, which were burning hot. "After passing the *Bember* (says M. Bernier) we pass from a torrid to a temperate zone: for we had no sooner mounted this dreadful wall of the world, I mean this high, steep, black, and bald mountain of *Bember*, than in descending on the other side, we found an air that was pretty tolerable, fresh, gentle and temperate. But that which surprised me more in these mountains was to find myself in a trice transported out of the Indies into Europe. For seeing the earth covered with all our plants and shrubs, except hyssop, thyme, marjoram, and rosemary, I imagined I was in some of our mountains of Auvergne in the midst of a forest of all our kinds of trees, pines, oaks, elms, plane-trees. And I was the more astonished, because in all those burning fields of Indostan, whence I came, I had seen almost nothing of all that.

35  
Cashmere.

"Among other things relating to plants this surprised me, that one and a half days journey from *Bember* I found a mountain that was covered with them on both sides, but with this difference, that on the side of the mountain that was southerly towards the Indies there was a mixture of Indian and European plants, and on that which was exposed to the north I observed none but European ones, as if the former had participated of the air and temper of Europe and the Indies, and the other had been merely European." The same traveller proceeds in his description of this valley or kingdom of Cashmere. "Thousands of cascades descend from the surrounding mountains of this enchanting plain, and forming rivulets meandering through all parts, render it so fair and fruitful, that one would take this whole kingdom for some great evergreen garden, intermixed with villages and boroughs discovering themselves between trees and diversified by meadows, fields of rice, corn, and diverse other legumes, of hemp and saffron, all interlaced with ditches full of water, with channels, with small lakes and rivulets here and there. Up and down everywhere are also



also seen some of our European plants, flowers, and all sorts of our trees, as apples, pears, prunes, apricots, cherries, nuts, vines. The particular gardens are full of melons, skirrets, beets, radishes, all sorts of our pot-herbs, and of some we have not."

This delightful spot is surrounded by the mountains adjoining to Imaus, which are of vast height and rude aspect, perpetually covered with snow. At the foot of the exterior chain of mountains is an inner circle of hills, which abound in trees, grass, and various sorts of vegetation, and which are full of all kinds of cattle, as cows, sheep, goats, gazelles, and musks. The exterior mountains are so lofty and cold, that the pioneers of Aurengzebe were obliged to cut through a glaciere or a great mass, as Bernier calls it, of icy snow. The capital is sometimes called *Cashmere*, sometimes *Sirinagur*, and sometimes *Nagas*. It is in N. Lat. 34. 12. on the banks of a celebrated river, the *fabulosus Hydaspes* of the ancients. Its current is smooth, and it is navigable in Cashmere by small boats. The town was in Bernier's time three quarters of a French league long on both sides of the river, and extending from it along a navigable canal to a small but beautiful lake. The houses are built of wood, four stories or more in height. The lower story is for the cattle, the next for the family, and the third and fourth serve as warehouses. The roofs are planted with tulips, which have a most beautiful effect in the spring. Every part of the country exhibits the remains of palaces, pavilions, and gardens formed there by the emperors of Hindoostan. The periodical rains, which almost deluge the rest of India, are excluded from Cashmere by the height of the mountains; and it experiences only light showers, which, however, are sufficient to feed the thousands of cascades which descend into the valley from every part of the stupendous and romantic bulwark of mountains by which it is encircled. The horses of this country are small, hardy, and sure-footed. The cows are black and ugly, but yield abundance of milk and excellent butter. They have also a kind of sheep which is used to carry burdens. The elk is mentioned as one of the wild animals that inhabit the woods at the base of the snowy mountains in the neighbourhood.

Cashmere is famous for its manufacture of shawls made of the wool of the broad-tailed sheep of Thibet, whose fleeces, in fineness, beauty, and length, are said to exceed all others in the world. The Cashmerians engross this article, and have factors in all parts of Thibet for buying up the wool, which is sent into Cashmere and worked into shawls of the highest value. The Indian emperor Akbar, who conquered this country in 1585, greatly encouraged this manufacture, and introduced it into Lahore. The natural colour of the wool is said to be gray tinged with red, but sometimes it is quite white.

The Cashmerians are accounted an ingenious people, fond of poetry, and having a language of their own. They are industrious mechanics, and the various articles of their workmanship are sent into all parts of India. They are celebrated for the fineness of their features and their admirable complexions. They look like Europeans, and neither resemble their neighbours of Tartary nor of India, having nothing of the flat noses and small eyes of the Tartars, nor of the black colour of the Indians. In the time of Bernier the In-

Vol. II. Part II.

dian courtiers were extremely solicitous to obtain Cashmerian women, to have children by them whiter than the natives of Hindoostan, that they might pass for the true Mogul breed of the same race with their monarch.

As already mentioned, India consists of two peninsulas, one to the westward, and the other to the eastward of the Ganges. The western peninsula is overlooked from the north, by that part of the chain of Imaus or Emodus which constitutes the southern front of the region of Tartary. In the south-western side of this high region the rivers Ganges and Indus have their source. After advancing westward to no great distance from the Indus, the river Ganges turns towards the south, and afterwards traverses almost the whole breadth of the peninsula in an easterly direction, till at last it proceeds south into the bay or gulf of Bengal. The Indus, rising in the south-western part of Tartary, called *Cashgar*, descends in a south but somewhat westerly course, till it enters the Arabian sea by various channels to the northward of the bay of Cutch. At its mouth, it has a broad delta or tract of fertile land, like the Nile in Egypt, formed by its own alluvions, or the deposition of mud brought down from the high country by the periodical floods to which it is subject. To a great distance from the sea it flows, like the Nile, along a fertile valley enriched by its inundations. Parallel to the channel of the river, after it has received all its tributary streams, run two chains of mountains, by which its course is directed, and its valley is separated from other countries. Beyond the mountains, on the east, extends a sandy desert of 200 miles in breadth, by which the valley of the Indus is shut out from the rest of India. The whole course of this river amounts to nearly 1000 miles. It has an uninterrupted navigation from the sea for flat-bottomed vessels of nearly 200 tons, as high as the city of Lahore, at the distance of about 650 miles. The current of the Indus must be rapid, as vessels frequently fall down the river from Lahore in 12 days; but the ascending passage requires six or seven weeks.

As the Indus and the Ganges nearly peninsulate or enclose western India on the north, in a manner similar to that in which it is enclosed by the ocean on the south, we shall take some farther notice of the course of the Indus. This river is the most westerly of India. Before it enters the narrow tract already mentioned between the mountains, which run parallel to its course, it is formed by the contribution of a variety of streams, which have their sources in the rugged country adjacent to high Tartary. These rivers, whose union forms the Indus, water a large and fertile territory, a part of which appears to have belonged to the ancient Persian empire of Darius Hystaspes. Various great and populous cities have in different ages stood upon these streams, in what is called the Panjab, or country of the five rivers, which consists of spacious and fertile plains. Alexander the Great reached these plains, and they formed the scene of his exploits against Porus and other Indian kings. Here also ended the progress of the Macedonian conqueror. He built a fleet of vessels, and descended the river with his army; an attempt which he is said to have been induced to make, from a notion that he had found out the head of the Nile. As in his time it was not known to the Greeks,

Afia.

36  
Sources of  
the Ganges  
and Indus.

37  
Indus de-  
scribed.



Asia.

that any other river in the world, excepting that of Egypt, contained crocodiles. The discovery of crocodiles in the river Indus, suggested the notion in these times, when geography was so little understood, that there might be some communication between this river and the great river of Africa. Arrian says, that Alexander had even written to his mother an account of his discovery of the head of the Nile. But the voyage down the river pointed out the mistake, as it brought him to the ocean.

<sup>38</sup>  
Delta of  
the Indus.

The lower parts of the Indus, or the fertile but swampy land near its mouth, was in the time of the ancients unhealthy and hot in the extreme. This rich delta or triangle of land is of great extent, each side of the triangle being 115 miles in length. The mouth of the river was well known at a very early period. Not only did Nearchus, the admiral of Alexander the Great, sail from it to the Persian gulf; but at a much earlier period, Darius Hystaspes, from curiosity to ascertain the place at which the Indus met the ocean, built, according to Herodotus, a fleet on the borders of Scythia, that is, of Tartary, high up the river, and gave the command of it to Scylax, a Grecian of Caryandra, an able sailor. He was directed to be attentive to discoveries on both sides; and when he reached the mouth, to sail westward, and that way to return home. He executed his commission, passed the straits of Babelmandel; and in thirty months from the time he sailed from Caspatyrus, landed safely in Egypt, at the place from whence it is said, that Necho sent his Phœnicians to circumnavigate Africa, by its now well-known promontory the Cape of Good Hope. This expedition took place in the 12th year of Darius, and in the year 509 before the Christian era.

The delta or low country, is still extremely unhealthy. The heats are so violent, in consequence of the vicinity of the sandy deserts, that it is found necessary to ventilate the houses occasionally, by means of apertures in the tops like chimneys. When the hottest winds prevail, the windows that are closely shut exclude the warmer current of the air, while the cooler part of the atmosphere being more elevated, descends through the chimneys. The soil depends for its fertility entirely upon the overflowings of the river; and it sometimes happens that a single shower does not fall during three years. There are no trees upon the delta, but in the drier parts the soil is covered with brushwood. The city of Tatta stands in the delta, upon the western branch of the river, about 65 miles from the sea, which is the distance to which the tide ascends. The British had at one period a factory here, for the purpose of transmitting the English broad cloths to the high countries around the sources of the Indus. Beyond Tatta, various towns are formed along the fertile banks of this river, during its whole progress between the parallel ranges of mountains, which are distant from its banks from 30 to 40 miles. In latitude 29° 8', on the eastern side, the Indus is joined by the river Setlege or Hysudrus; and it is to be remarked, that in consequence of the sandy deserts by which the lower parts of the Indus are surrounded, this is the first river that falls into it, in a tract of 520 miles from the sea. This river Setlege, is the southern boundary of the Panjab already mentioned, which having from time immemorial been a most fertile and

<sup>39</sup>  
River Set-  
lege.

populous region, and at the same time the frontier of India towards the north-west, has been the scene in different ages of the most dreadful massacres, by the celebrated destroyers of mankind, Alexander the Great, Timur or Tamerlane, and Kouli Khan. The river Setlege rises at the foot of Mount Imaus, and is joined by another stream, called the *Beyab* or *Hypphasis*. Both of them pass through a fertile tract of country.

About 50 miles above the discharge of the Setlege, another river called the *Chunaub* or *Acesines*, falls into the Indus. On the southern banks of the Chunaub, in latitude 30° 34' stands the city of Moulton, the capital of a province, in a country very fertile in cotton, and also in sugar, opium, brimstone, galls, and abundance in camels, which animals also are reared in great numbers on the lower parts of the Indus. This city is remarkable for being the principal residence of the Banians, an hereditary cast or tribe, who employ themselves solely in commerce, and are the merchants or brokers of India. Their chief resides here, but they form settlements in every commercial town of India; and they send colonies to the trading towns of Arabia and Persia, and even as far as Afracan. As these die away or incline to return home, a supply is sent from India of unmarried young men. As no females attend them, they live at Afracan and some other places, with Tartarian women; but the contract lasts only during their residence. They are highly esteemed for the integrity of their dealings, and are trusted to a great extent by Europeans and other strangers, as well as by the natives. They are the bankers of India; and the confidence reposed in them, is one of the means by which the civilization of that country has been preserved amidst its revolutions and the sanguinary wars of its princes. No prince has ever offered violence to the Banians with the view of extorting from them their treasures, without speedily finding himself undone. His officers have instantly conspired against him, because by robbing the Banians, or bankers in whose hands their money was deposited, he ultimately plundered the very persons who supported his power, and had the readiest access to his person. About 150 miles above Moulton, is Lahore, the capital of the Seiks, a set of religionists who venerate the ox like the Hindoos, but who are pure Monothelists and Predestinarians, worshipping God without the use of images. They form a sort of aristocratical republic. They can raise 100,000 cavalry, and they have of late become very formidable. They are a kind of Indian reformers, hostile both to the government and the religion of the country. They admit of profelytes, and have no casts or division into distinct hereditary professions. In their territory, a vast mountain of rock salt is found, which is cut into dishes, plates, and stands for lamps.

Between Lahore and Moulton, the Chunaub is joined by the Behut or the *fabulosus Hydaspes*, which flows, as already mentioned, from the romantic Cashmere. A little above the mouth of the Chunaub, the Indus receives an obscure river, the Lucca, from the territory on the north-west, called the kingdom of *Candabar*. The city of Candahar, situated in N. Lat. 33. E. Long. 67. 15. was anciently a place of much importance, being the gate of India, with respect to Persia, and the great magazine of Indian and Persian goods.

Asia.

40

41

ans.

42



goods. Somewhat higher, that is, more northerly, two tributary streams enter the Indus, called *the Cow* or *Cophenes*, and the *Kameh* or *Gurdus*. On the former stands the city of Ghisni, and on the latter is Cabul. This last city is in N. Lat. 34. 36. and E. Long. 68. 58. near the foot of the Indian Caucasus, or Imaus. It stands in so happy a climate, that it produces the fruits both of the temperate and torrid zones, though it is in the near neighbourhood of mountains, whose summits are covered with perpetual snow. The Indian historians speak of it with raptures. Cabul is the residence of the kings of Candahar. It has at all times been of much importance, as the frontier of India towards the river Oxus, which flows into the Caspian sea and towards Tartary. In ancient times, it always was a great commercial magazine, as well as an important fortress. To this day, it is on the direct road by which the commerce of the southern parts of the Russian empire is carried on with India. It is at present noted for its vast fairs of horses and cattle, the first of which are brought hither by the Usbec Tartars; and merchants resort to these markets from Persia, China, and Tartary. Near the mouth of the river Kameh, the city of Attock stands upon the Indus. Attock signifies *forbidden*; this being the original boundary of Hindoostan, towards the north-west, which the Hindoos were prohibited to pass. Here the river is three quarters of a mile broad, and the water is cold, and the stream rapid and turbulent, having much black sand suspended in it. To this place the Indus descends from the lofty mountains of Imaus, and the high region of Tartary. The remainder of its course, therefore, lies through a country little known, and so rude in its soil and climate, as scarcely to admit even of the most slender population.

Returning to the ocean, it is to be observed, that the most eastern of the branches into which the Indus is divided towards its mouth, flows into the bay or gulf of Cutch, which advances far into the country, receiving the river Puddar. This river, and the bay into which it flows, form one side of the fertile peninsula of Guzerat, the other side of the same peninsula being contiguous to the gulf of Cambay. The western parts of the peninsula of Guzerat are mountainous and woody. The rest is extremely rich, and once famed for a very considerable commerce of its productions. Here stood in former times, on the promontory of Guzerat in the neighbourhood of Diu, one of the last remaining possessions of the Portuguese in India, the great temple or pagoda of Sumnat. It was destroyed in the eleventh century by Mahmud, the greatest of the princes of that race of Tartars called *Turks*. He was the sovereign of Ghizni, which we have already noticed as a town in the kingdom of Candahar, upon one of the streams that fall into the Indus from the north-west. Being a most fanatical Mahometan, he undertook 12 holy wars as they were called, against the unbelieving nations of India. Lahore, Moultan, and Delhi, were compelled to open their gates to him, and he at last reached and conquered the rich peninsula or kingdom of Guzerat. On the payment of a tribute, the rajahs preserved their dominions, and the people their lives and fortunes; but to the religion of the country Mahmud was inexorable. Many hundred temples or pagodas were levelled with the ground.

Many thousand idols were demolished, and the servants of the Arabian prophet were stimulated, and rewarded, by the precious materials of which they were composed. The pagoda of Sumnat was at this time conspicuous beyond all the retreats of Indian superstition. Its magnificence and its destruction deserve well to be noticed, as indicating the character of two Asiatic nations: the riches and devout superstition of the one, and the furious fanaticism which the other had been able to diffuse over a great part of the world. This pagoda or temple, was endowed with the revenue of 2000 villages; 2000 Brahmins were consecrated to the service of the deity, whom they washed each morning and evening with water from the distant Ganges. The subordinate ministers consisted of 300 musicians, 300 barbers, and 500 dancing girls, conspicuous for their birth or beauty. Three sides of the temple were protected by the ocean; the narrow isthmus was fortified by a natural or artificial precipice, and the city and adjacent country were peopled by a nation of fanatics. They confessed the sins and the punishment of Kinnoge and Delhi; but they boasted, that if the impious stranger should presume to approach their holy precincts, he would surely be overwhelmed by a blast of the divine vengeance. By this challenge the faith of Mahmud was animated to a personal trial of the strength of this Indian deity. Fifty thousand of his worshippers were pierced by the spears of the Moslems; the walls were scaled; the sanctuary was profaned; and the conqueror aimed a blow of his iron mace at the head of the idol. The trembling Brahmins are said to have offered ten millions sterling for his ransom; and it was urged by the wisest counsellors, that the destruction of a stone image would not change the hearts of the Gentoos, and that such a sum might be dedicated to the relief of the true believers: "Your reasons," replied the sultan, "are specious and strong; but never in the eyes of posterity, shall Mahmud appear as a merchant of idols." He repeated his blows, and a treasure of pearls and rubies, concealed in the belly of the statue, explained in some degree the devout prodigality of the Brahmins. The fragments of the idol were distributed to Gazna, Mecca, and Medina. Bagdad listened, says the historian, to the edifying tale; and Mahmud was saluted by the caliph, with the title of *Guardian of the fortune and faith of Mahomet*.

Adjoining to the peninsula of Guzerat, and at the bottom of the gulf of Cambay, stands the city of that name, which once was the capital of a considerable kingdom. It is situated in a great manufacturing country, which furnishes large quantities of coarse unbleached cotton cloth, for Persia, Arabia, Egypt, and Abyssinia; also blue cloths for the same countries, and for the English and Dutch trade on the western coast of Africa; likewise blue and white checks to be used as mantles in Arabia and Turkey, some coarse, and others enriched with gold; muslins for turbans, gauzes, mixed stuffs of silk and cotton, and shawls made of the Cashmerian wool. This country also sends annually to Surat, Bengal, China, Persia, and Arabia, immense quantities of raw cotton, as well as rich embroideries of various kinds.

From the bottom of the gulf of Cambay, the peninsula of western India may be said to begin in the strict-  
 Form of the peninsula of Hindoostan.



Afa.

est fence; as a line of coast here commences, which proceeds without interruption, or any considerable bending, to Cape Comorin, the southern part of the peninsula, after which the coast suddenly turns to the north-east; and the bay of Bengal bounds the peninsula on the east. From Cambay to Cape Comorin, the western coast of the peninsula may be divided into three unequal parts. The first extends from the most advanced part of the gulf southward, a little beyond the city of Surat. The second tract of coast, which is more extensive than this, in a fourfold proportion, is called *the coast of Concan, or the pirate coast*. To the southward of this, the coast of the peninsula, all the way to Cape Comorin, receives the appellation of the *Malabar coast*. The first of these divisions, lying upon the eastern shore of the gulf of Cambay, consists of a low country, into which the rivers descend from the upper part of the peninsula of Hindoostan. After passing Surat, however, the physical structure of the peninsula assumes a peculiar character well worthy of attention. The Concan and Malabar coasts which form almost the whole of the western shores of the peninsula are extremely low, and a narrow stripe of level land, of from 40 to 70 miles in breadth, runs along the coast from Surat to Cape Comorin. At the back of this stripe of low land, a chain of mountains runs parallel to the sea shore. They are called *the Ghauts*, and rise to a surprising height, opposing to the west a lofty wall of rugged and precipitous rocks. The whole chain seems one connected crest or wall, inaccessible to the summit, unless by paths which have been worked by the hand of man, and which cannot be ascended even by a single traveller, without the fatiguing labour of many hours. From the root of these rocks, the plain towards the sea is variegated with small hills, which gradually descend into a level and fertile country, blest with a cool and healthy air. The small hills near the foot of the Ghauts are clothed with forests of the most valuable timber; and from the sides of the mountains magnificent cataracts descend, forming torrents which facilitate the conveyance of the timber to the sea coast.

The word *Ghauts* signifies *passes*; but this name has been given to the whole front of rocks which overlooks the western coast. At the summit of the Ghauts the country is level, and consists of an elevated tract of fertile and populous plains, which are supported to the west by the Ghauts, as by the walls of a terrace formed on an immense scale. The country, however, begins gradually to descend towards the east; and accordingly from Surat to Cape Comorin, the great rivers of the peninsula uniformly flow from the Ghauts eastward, and form considerable tracts of low rich land upon that coast, which receives the appellation of the *Coromandel coast*. Thus the western peninsula of India must be considered as resembling a plane, gradually inclining towards the east, and supported on the west by a long chain of lofty rocks.

In the north-western quarter of the peninsula, the two most considerable rivers that flow into the gulf of Cambay, are the Nerbudda, in N. Lat. 23. 10. E. Long. 82. 10. which runs a course of 700 miles; from the centre of the northern part of the peninsula; and the river Tapti, upon which stands the celebrated city

48  
Nerbudda  
river.49  
Tapti.

of Surat, in N. Lat. 21. 11. This city has long been well known as a place of great commerce. It is the port from which the Mahometan pilgrims sail on their way to Mecca. The oldest British factory in India is in this city, and it is still a place of the first commercial importance. Wheat grows in great abundance in the surrounding country of equal quality with that of Europe, though it scarcely flourishes farther to the south.

On the coast of Concan or the Pirate coast, is the island of Bombay, containing a celebrated British settlement which need not here be noticed. The pirate coast contains a great variety of harbours, and is thus described by Mr Rennel: "Perhaps there are few coasts so much broken into small bays and harbours, and that at the same time have so straight a general outline. This multitude of small ports, uninterrupted view along shore, and elevated coasts favourable to distant vision, have fitted this coast for the seat of piracy; and the alternate land and sea breezes that prevail during a great part of the year, oblige vessels to navigate very near the shore. No wonder then that Pliny should notice them in his time, as committing depredations on the Roman East India trade; and although a temporary check has been given them in the destruction of Angria's fleets, &c.; yet we may expect they will continue the practice while commerce lasts. They are protected by the shallowness of their ports and the strength of the country within. As pirates, they have greater natural advantages than those of Barbary, who being compelled to roam far from their coasts, have expensive outlets: here the prizes come to their own doors, and the cruisers may be secure in port until the prey is discovered."

In ancient times the Romans were obliged to put on board their merchant ships a number of archers to defend them against the attacks of these pirates. In modern times the pirates have made a considerable figure, particularly under a chief called *Angria*, who was subdued by the English, and his port Gheriah taken. They sometimes use vessels of 300 tons with three masts; but, in general, they are of 150 tons and only two masts. Their cannon are six and nine pounders. They make prize of all that do not condescend to purchase their passports. As the British trade in these seas is carried on in large vessels, it does not suffer from the pirates; but the ships of the Indians are much exposed to their enterprises. It is said, that the celebrated Hyder Ally established a sea port upon this coast at the town of Mangalore, with the view of accomplishing a most grand but visionary plan. He had formed the project not only of becoming sovereign of the Indian seas, but even retaliating on the British the invasions they had made into India. To become a naval power he invited shipwrights from all countries, and under them trained his own subjects. He had heard something of the effects of frost in cold climates, and had formed some strange ideas of the solidity and strength, or hardness, of the waters of the European seas. Under the notion, therefore, of combating against oceans of ice, he strengthened his ships with planks of great thickness. But his port was twice taken by British detachments. In 1768 a fleet from Bombay brought away from it nine great ships and several

Afa.

50  
Coast of  
Concan or  
Pirate coast.57  
Mangalore.  
Hyder Al-  
ly's project  
of invading  
England.



veral lesser ones. In 1781, he had nearly finished six ships of the line, and several frigates and sloops of war, when the port of Mangalore was again captured.

It is to be observed, that the approach to this coast was formerly thought very dangerous. Ships were hurried forward by so rapid a current that they could neither keep their reckoning, nor distinguish the coast during the rainy season. Many vessels were consequently lost. These misfortunes have ceased, since an observation was made of a fact noticed by Arrian in ancient times, that in the Indian ocean, at a certain distance from land, many water serpents, from 12 to 13 inches in length, are to be seen rising above the surface of the water. When these serpents are seen, they indicate that the coast is precisely two degrees distant. This coast of Concan was anciently denominated the *Lymirica regio*. It was greatly frequented by Roman merchants, and is thus spoken of by Arrian: "Originally they performed only coasting voyages from harbour to harbour, sailing from Cana, on the coast of Arabia Felix, till Hippalus, an adventurous seaman, having considered the situation of the harbours and the form of the sea, found out a navigation through the ocean, at the season in which the winds blow with us from the sea, and the west-south-west wind prevails in the Indian ocean, which wind is called *Hippalus*, from the first discoverer of that navigation. From that time till now, some sail in a direct course from Cona, others from the harbour of the Aromati: they who sail for Lymirica make a longer stay; others who steer for Barygasa or Scythia, stay not above three days; they spend the rest of the time in completing their usual voyage."

Southward of Mangalore all the way to Cape Comorin, this shore receives the appellation of the *Malabar coast*. It contains several towns, the first of which is Tellicherry: From the shore to the Ghauts, the country here and elsewhere is extremely beautiful. Pepper is the chief article of commerce; but coffee is also cultivated. There are various other towns of note, particularly Mahi, originally a French settlement, Calicut, Canganore, Cochin, and Ajenga. The interior of the level country to the foot of the Ghauts, is covered with fine forests, both here and in Concan, which contain that most valuable of all treasures for the navigation of the Indian sea, the teek wood, which deserves particular attention. It is an evergreen, and esteemed a sacred tree. The Gentoos repair or build their pagodas with this timber only, when timber is at all used. Its property of resisting the worm, which in these climates is so destructive to all ships, renders it of the utmost importance. Mr Rennell speaks in the following terms of it: "I cannot close this account, without remarking the unpardonable negligence we are guilty of in delaying to build teek ships of war for the use of the Indian seas. They might be freighted home without the ceremony of regular equipment, as to masts, sails, and furniture, which might be calculated just to answer the purpose of the home passage at the best season, and crews could be provided in India. The letter annexed, which was written with the best intentions nine or ten years ago, will explain the circumstances of the same case. Teek ships of forty years old and upwards, are no uncommon objects in the Indian seas, while an European built ship

is ruined there in five years. The ships built at Bombay are the best, both in point of workmanship and materials, of any that are constructed in India; and although fourth rates only are mentioned in the letter, there is no doubt but that third rates may be constructed, as there is a choice of timber. The Spaniards build capital ships in their foreign settlements. The East India Company have a teek ship on her fourth voyage at present, which ship has wintered in England; therefore, any objection founded on the effects of frost on the teek timber, is done away."

"Frequent have been the opportunities I have had of observing how very rapid the decay of ships built of European timber is in the East Indies; and, on the contrary, how durable the ships are that are built of the wood of that country, namely, the teek, which may not be improperly styled *Indian oak*. The number of ships of war that were ruined in those seas during the late war (1757 to 1762), may be admitted as a proof of the former remark; and the great age of the ships built in India may serve to prove the latter. What I mean to infer from this for your lordships use is, that ships of war under third rates may be constructed in India, and, with moderate repairs, last for ages; whereas a ship of European construction can remain there but a very few years; to which disadvantage may be added, that of losing, in the mean time, the services of the ships that are sent to relieve the worn-out ones."

To the westward of the Malabar coast, at the distance of several leagues, are the Laccadive isles. They extend from latitude 10° to 12° 50' north. They are supposed to be the isles mentioned by Ptolemy, under the title of *insulæ numero 19*; though in fact they are 32 in number. They are small and covered with trees. They have some trade. They export the product of the cocoa trees, that is to say, the oil extracted from the nut, and cordage formed of the rind. They also export dried fish to the continent of India, and receive rice in return. Ambergrease is frequently found floating near these islands. At a considerable distance from the Laccadives are the Maldivé isles. They extend from N. Lat. 1. to 7. 25. From their number, Ptolemy calls them *Insulæ 1378*. The natives make the number of their isles amount to 12,000. They are divided into 13 provinces under one king, whose subjects are miserably poor. He assumes, however, the magnificent title of *sultan of the Maldives, king of 13 provinces, and 12,000 isles*: But these isles, whatever their number may be, are extremely trifling. A fishery, however, is carried on in their vicinity; and they produce cocoa nuts, which, with the cordage produced from that useful tree, are sold upon the western coast of India. These isles are chiefly worthy of notice, on account of one article obtained from them: this is the cowry, a small species of shell, the *cyprea moneta* of Linnæus. These shells, which appear to be produced in the Maldives alone, have been used as current coin for ages past in different parts of the world. The shells are collected twice in the month, at the full and new moon, by the women, who wade into the sea for that purpose up to their middle. They are packed up in parcels of 12,000 each, and are used as current money among the poor in Bengal. As provisions are exceedingly cheap in that country, it is found ab-

solutely



Afia. solutely necessary to employ, for the use of the common people, something less valuable than any coin formed of metal. These shells or cowries serve this purpose. One cowry is rated in Bengal at the hundredth and sixtieth part of a penny. Eighty cowries make a pun; and from 50 to 60 puns are equal to a rupee, or four shillings and sixpence British money. In Africa, in the country of the negroes, upon the rivers Niger, Senegal, and Gambia, these cowries also pass as current money; but at about ten times the value that they bear in Bengal. Hence, the English, French, and Dutch, are induced to purchase them in India, and to bring them to Europe, from whence they are afterwards exported for the purposes of trade; and thus, an useless shell, brought from the miserable islands of which we are now speaking, comes to be ultimately employed to purchase the persons of men.

58  
Cape Comorin.

Cape Comorin is the most southern part of this peninsula, and consequently of Hindostan. It is in N. Lat. 8°. A little to the north of this cape, the Ghauts terminate. The sea adjacent to it is considered by the natives as sacred, and persons resort thither to perform ablutions and lustrations. From this point the land turns towards the north-east, along the gulf of Manara, which is between the main-land and the island of Ceylon. This island was known to the ancients, by the name of *Taprobana*. Pliny treats very particularly concerning it, and the Arabian geographers of a later age give it the name of *Serendib*. It is rich in almost all mineral productions excepting the diamond, and possesses a fertile soil. On account of the cinnamon which it produces, the Portuguese made themselves masters of the whole of its ports. In 1656, they were expelled by the Dutch; who had been invited thither by the monarch of the island, to rescue him from the state of dependance in which he was held by the Portuguese. The emperor repaid the Dutch in cinnamon, all the expence of their efforts in his favour; and in return, speedily found himself in the same dependant state as before his victories over the Portuguese. The cunning Dutchmen obtained from him a grant of coast, round the island, twelve miles in breadth, reckoning from the sea, and under pretence of defending him from foreign invasions, they fortified every one of his ports. Having thus hemmed in his majesty, these good allies had it at all times in their power, by refusing to sell him salt, to compel him and his subjects to submit to any terms they were pleased to dictate.

It is to be observed, that the natives of this island, differ totally in their language, and in a considerable degree in their religion, from the inhabitants of the neighbouring continent. They are worshippers of Budho or Gaudma, who they believe came upon earth for the salvation of mankind. They have many pagodas or temples, which are richly carved. Between the island of Ceylon and the continent, at the narrowest part of the strait, is a chain of rocks which runs entirely across the channel. The length of the chain is about 30 miles, but the whole is frequently interrupted by narrow passages, which however are extremely shallow. It is very probable that this succession of rocks, at some period, formed part of an isthmus, which united Ceylon to the continent. Pliny takes notice of the greenish cast of this shallow part of the channel, of its being filled with shrubs, that is with corals. On

each side of the chain of rocks, the water does not exceed for some distance the depth of 13 or 14 feet. The chain of rocks which we have now mentioned, is called by the Mahometans *Adam's Bridge*. Their tradition is, that our common father, after his transgression, was cast down from paradise, which they understand to have been celestial, and not terrestrial, as we do; that he fell upon Ceylon; but that afterwards this bridge was made by angels, to enable him to pass over to the continent. The highest mountain of the island, which is of a conical form, is called *Adam's Peak*. On the summit is a flat stone, with an impression resembling a human foot, which is two feet long. The Mahometans say that it is the mark of Adam's foot; that he fell from paradise on this summit, and that Eve fell near Judda in Arabia. They were separated 200 years, after which he found his wife, and conducted her to his old retreat in Ceylon, where he died and was buried, and where two large tombs remain, which are visited by Mahometan pilgrims. But the Pagan inhabitants of the island, ascribe the mark of the foot to their great deity Buddo, Budho, or Gaudma, when he ascended into heaven. To this summit therefore they also make pilgrimages, and here they offer sacrifices, which by an ancient custom, descriptive of a very tolerant spirit, they give to the Mahometan pilgrims.

Afia.  
60  
Adam's  
bridge.

61  
Adam's  
peak.

This fine island, with the valuable spices and other riches which abound in it, is now relinquished by the Dutch in favour of the British: and it remains to be seen, whether the natives will find their independence increased by this new alteration of the protectors of their coast, and the purchasers of their cinnamon; or whether the monarch and his people will not as usual be kept under controul, by the aid of the monopoly of salt, an article of immense importance in hot climates where vegetable food is chiefly used.

62  
Ceylon re-  
linquished  
to Britain.

From Cape Comorin north-eastward to Cape Calmère, in N. Lat. 10°. 20'. is above 220 miles. The country is watered by frequent streams from the north-west, that is, descending from the eastern side or summit of the Ghauts. At Cape Calmère what is properly called the *Coromandel coast* begins. In the southern part of it, is the pearl fishery, which has been well known and practised during several ages.

63  
Coromandel  
coast.

Around Cape Calmère, is the delta of the river *Ca-River* Ca-very, which proceeding from the south of the Ghauts, near the western shore of the peninsula, there forms an extensive tract of low and fertile land, well suited to the cultivation of rice, the grain best suited to hot climates. This delta formed what was called the *kingdom of Tanjore*, now a province belonging to the British East India Company. The river is at one place divided by an island called *Seringham*, upon which are two pagodas or Indian temples, one of which is perhaps the most famed in Hindostan for its sanctity, magnitude, and the vast resort of pilgrims, who go to it from all quarters. Mr Orm gives the following description of this sacred retreat. "It is composed of seven square enclosures one within the other, the walls of which are 20 feet high, and four feet thick. These enclosures are 350 feet distant from one another, and each has four large gates with a high tower, which are placed, one in the middle of each side of the enclosure, and opposite to the four cardinal points. The outward wall is near four miles in circumference, and its gateway to the

64  
River Ca-  
very.

65  
Pagoda of  
Seringham.

the



Asia. the south is ornamented with pillars, several of which are single stones 35 feet long, and nearly five in diameter; and those which form the roof are still larger. In the inmost enclosures are the chapels. About half a mile to the east of Seringham, and nearer to the Carveri than the Coleroon, is another large pagoda called *Jumbakisna*, but this has only one enclosure. The extreme veneration in which Seringham is held, arises from a belief that it contains the identical image of the god *Witchnu*, which used to be worshipped by the god *Brachma*. Pilgrims from all parts of the peninsula come here to obtain absolution, and none come without an offering of money; and a large part of the revenue of the island is allotted for the maintenance of the Brahmins who inhabit the pagoda; and these with their families formerly composed a multitude not less than 40,000 souls, maintained without labour by the liberality of superstition. Here, as in all the other great pagodas of India, the Brahmins live in a subordination which knows no resistance, and slumber in a voluptuousness which knows no wants; and sensible of the happiness of their condition, they quit not the silence of their retreats to mingle in the tumults of the state, nor point the brand flaming from the altar, against the authority of the sovereign, or the tranquillity of the government."

66  
Tranquebar  
and Pondi-  
cherry.

67  
Vultures.

Upon the same coast, is situated the small Danish settlement of Tranquebar; to the northward of which is Pondicherry belonging to the French, part of which, at a considerable distance, the British settlement of Madras succeeds. Near Pondicherry, the bird called the *vulture* is frequently found. This animal is well known to feed upon dead or putrid carcases. A singular circumstance concerning it has been observed in every age in the eastern countries, that though very rare in a particular quarter, yet when two hostile armies approach to give battle to each other, the air is suddenly seen filled with multitudes of them, flying with their usual sluggish wing, from every quarter, to partake of the carnage. Hence in former times they were supposed to possess a prophetic instinct, or presage of battle, which led them to seek the spot of future slaughter three days before the event. To this opinion Milton alludes, when he compares the great enemy of mankind to one of these birds.

—————"As when a flock  
Of ravenous fowl, though many a league remote,  
Against the day of battle, to a field  
Where armies lie encamp'd, come flying, lur'd  
With scent of living carcases design'd  
For death, the following day, in bloody fight;  
So scented the grim feature, and upturn'd  
His nostril wide into the murky air,  
Sagacious of his quarry from afar."

*Paradise Lost*, Book X. l. 273.

Between Pondicherry and Madras, the river *Paliar* enters the sea. Upon this river, about 66 miles above its mouth, stands the city of Arcot, the *Arcati regia Soræ* of Ptolemy, and *Soro-mandalam*, corrupted into the modern *Cowomandel*, giving name to the whole coast.

68  
Krishna.

At a considerable distance to the north is the great river *Kistnah* or *Krishna* in Lat. 15. 43. It rises near the western Ghauts, and like all the other rivers of this

extensive coast annually overflows a vast tract of country. Into the north side of this river, in Lat. 16. 20. flows a great stream called the *river Beema*, which also rises at the head of the Ghauts, within 50 miles of the other side of the peninsula. It runs a course of 350 miles. To the north of the river *Krishna* is the celebrated and once powerful kingdom of *Golconda*, abounding in corn, rice, cattle, sheep, and every necessary of life; also in fish, which are found in the numerous rivers, which in some places are in a great measure formed by art. Dams are made across the hollows between hills sometimes half a league in length. These are filled during the rainy season, and the inhabitants introduce the water as it is wanted into the lower country, which, assisted by the heat of this climate, produces prodigious fertility.

Asia.

The river *Godavery* is the next great stream upon this eastern coast of the peninsula. Like the others, it rises near the western coast, and flows towards the east. It is joined by another great river called the *Bain-gonga*. The delta of this river is of vast fertility, enriched by the soil brought down by the periodical inundations. To this river succeeds a flat coast which, unlike the more southerly parts of this eastern side of the peninsula, has behind it, at some distance inland, a barren lofty chain of rude and almost inaccessible mountains. The part of the coast betwixt the sea and these mountains is called the *Circars*. To the northward the country descends regularly towards the east, as throughout the rest of the peninsula. In general, however, it is soft and morassy though fertile. This country was known in the time of *Pliny*. It is now called *Orissa* or *Orixa*, and was in his time said to be the seat of the *Gangaride Calingæ*, whose monarch was very powerful, being able to bring into the field 70,000 foot, 1000 horse, and 500 elephants. Beyond this part of the Indian territory, at some distance, the mouths of the *Ganges* begin, forming the extremity of the bay of Bengal, and of the eastern side of this peninsula.

69  
Godavery.

The *Ganges* is the most celebrated of all the eastern rivers, being in every part of its course held sacred by the original inhabitants of the country. It periodically overflows an immense extent of fertile territory, formed by the deposition of mud, which in the course of ages it has brought down from the higher country. Compared to this mighty stream, the *Egyptian Nile* sinks into insignificance, and the fertility which it produces is trifling. So completely is the whole of this country formed by the alluvions of its river, that there is not a stone quarry on the banks of the *Ganges* for the space of 500 miles. The depth of the river to that distance is 30 feet. Immediately at the mouth, however, it is obstructed by the mud brought down by its own floods, so that its eastern or true channel cannot be entered by large vessels. The channel called the *Hoogly river*, upon which the city of *Calcutta* stands, is the most useful of its mouths, being that which is entered by large vessels, though even at the mouth of this branch great danger is experienced from numbers of longitudinal banks at its entrance formed by the mud or sand brought down and deposited there by the waters of the river. There are some other branches also which may be entered during the rainy season, or at its close. At the great

70  
Ganges.

71  
Hoogly.

tract.



tract which faces the bay is a collection of flat islands, divided by a labyrinth of canals covered with trees, and forming altogether a forest as large as the principality of Wales. The head of the delta is 220 miles from the sea in a straight line. The numerous channels which pass through it in every direction, form a complete inland navigation along the lower parts. Ships sail amidst a forest divided into numberless isles by a continual labyrinth of channels, so various in breadth that a vessel has at one time her masts almost entangled in trees, while at another she passes uninterruptedly along a capacious river beautifully sheltered with woods. These woods, however, are dreadfully infested by tigers, to which the pious Hindoos, when coming on a pilgrimage, to wash themselves in the sacred stream, are apt to fall a prey.

72  
Source of  
the Ganges.

It has been already mentioned, that this great river rises in the southern part of the high central region of Asia. The territory round its source is called the kingdom of Thibet, and is in about Lat. 33. 10. From thence the Ganges proceeds to a considerable distance westward, among lofty and savage mountains, after which it precipitates itself into a vast and deep chasm, from which, at a great distance, it escapes after a course in all of 800 miles from its origin, and enters at once as from a second source into the vast and fertile plains of Hindoostan. Through these it runs navigable with an easy and smooth current 1320 miles, till it reaches the sea. The place at which it emerges through a gap or division of the lofty Imaus or southern front of Tartary is called *Hurdwar*. In this neighbourhood the mountains are covered with lofty spires of ice overlooking the torrid plains of India. Into the Ganges flow multitudes of great rivers from each side, which give a matchless inland navigation. It receives in its course through the plains eleven rivers, some of which are equal in size to the Rhine, and none less than the Thames. It maintains 30,000 boatmen by the carriage of salt and food for ten millions of people in the province of Bengal, and all this independent of its fisheries, and of its different exports and imports. Where it passes through valleys which require not the aid of its inundations to assist the fertility of the soil, the country is defended by vast dikes, which are kept up at an enormous expence. One branch of the Ganges is thus confined for the extent of 70 miles, so that when the river is full, passengers in ships and boats look down on each side as from a lofty eminence into the adjacent country. Its waters are periodically increased by the tropical rains, and by the melting of the snows in the mountains of Tartary adjacent to its source; it then assumes the appearance of a sea of almost boundless extent. When the rains subside the water quickly passes away, and in its stead there suddenly ascends to view a fertile country, which, by the rapidity of tropical vegetation, is almost instantly covered with corn fields and other plantations, some of the islands of the Ganges producing three or four crops yearly.

73  
Jumna.

The most important of the rivers which join the Ganges is the Jumna from the south. It proceeds through a very fertile country; and Delhi and Agra, the ancient Mogul capitals, are situated upon it. Though the waters of the Ganges are in every part held sacred, yet they are doubly so at their junction with the Jumna, which is also accounted sacred. The

city, which stands at the junction or forks of the two rivers is therefore called *Allababad* or *the City of God*. At some distance below this is the city and district of Benares, the great seat of the Hindoo sciences, in which the Brahmins instruct immense numbers of pupils in their religion, contained in books written in, what is now a dead language, the Sanscrit. Many other great cities stand upon this river, of which it is unnecessary here to take notice. The whole country naturally enjoys extreme fertility, and being possessed by an industrious people it abounds with inhabitants.

Asia.

To the north-east of Bengal, which is the province of Bootan, which is the province of Bootan, is situated near the foot of the mountains that overlook the plains of Hindoostan. Here the great chain of Emodus, capped with eternal snow, shows itself to the inhabitants of Hindoostan, over the lesser hills which guard its approach. On the eastward of the bay of Bengal the river Burrampooter also falls into the Ganges in its size and in extent of course. It rises, like it, in the southern part of the high region of Tartary, but flows eastward, and as its channel lies among rugged rocks and mountains inhabited only by scattered and barbarous tribes, it is of little renown, and till lately was unnoticed by strangers though its mouth is close to the mouth of the Ganges. It has only been discovered to be a first rate river so late as the year 1765. Beyond the lower part of the Burrampooter Hindoostan speedily terminates to the east, at a narrow chain of mountains running from north to south, the last province receiving the appellation of *Chittagong*. This province proceeds only to a short distance southward along the eastern shore of the bay of Bengal.

74

Bootan.

75

Burrampooter.

The great country of Hindoostan, from the Panjab and the course of the Indus on the west, to the lower part of the Burrampooter and Chittagong on the east, and from the front of Tartary on the north to Cape Comorin on the south, has undoubtedly, from the most distant ages been one of the most fertile and populous regions on the globe. Its civilization runs back to the remotest periods, and the monuments of ancient magnificence which it exhibits are innumerable. When Alexander the Great invaded the western part of it, he found it, as it now is, filled with an industrious, wealthy, and civilized people, possessing the same religion and manners as at present. In its original state it does not appear that India, like China, was ever united under one government, unless when subjected to a foreign yoke. It would seem to have been divided into a great number of independent principalities, and it has always had a tendency to fall back into that state, a circumstance which has rendered its different parts an easy prey to foreigners. The Hindoos are a mild and humane people; but they are at the same time an extremely inactive, timid, and feeble race of men, patient of insults and injustice, so that all invaders have been able to subdue them. A Tartar conquest introduced the Mahometan religion and a feudal government into their country, and changed their language for that of Persia, though to this day the Mahometans are only as one to ten of the population. The British also coming from an island of the Western ocean, have, with an handful of men, been able to become their masters. A remnant, indeed, of Hindoo independence exists

76

Character  
of the Hin-  
doos.



Afr.

exists in what are called the *Mahratta states*, upon the summit of the Ghauts in the western part of the peninsula; but this independence they will not probably be long able to preserve. Even in the ordinary exertions of life the Hindoos act like men destitute of energy. As carpenters, for example, they perform their work with much neatness and dexterity, but they employ small and light tools, which to men of a more vigorous character and habit, appear contemptible; and when an ordinary beam is to be tuned over, an assistant labourer must give his aid, of which an European workman would not perceive the necessity; but the Hindoos living in a country in which labour is extremely cheap, are accustomed to supply by numbers their own deficiency of energy of mind or of strength of body.

A general imbecility of character seems indeed to mark this nation, or an incapacity to make any vigorous effort of self command. In matters of intellect they are slaves of imagination and of education. On the banks of the Ganges, in a fertile climate, in which human life is easily sustained, and the constitution naturally prone to indolence, a superstition has been invented which seems to have proved a source of the greatest misfortunes to the nation. Not only is the imagination filled, and the exercise of the understanding injured, by endless legends or tales about the transfiguration of their divinities, but a set of ceremonies and regulations is introduced which places every part of life under controul. The whole people are divided into tribes or hereditary casts. A member of one of these casts cannot marry into a different cast without contracting impurity, and being for ever dishonoured or driven out of his tribe. A Hindoo is not permitted by his religion to eat with a stranger, or even to drink water that has been drawn by impure hands, that is to say, by persons belonging to a different cast. One cast only, the Rajaputes, are permitted to eat animal food, but the rest are compelled by their religion to live upon vegetables alone. Endless minute observances in their eatings are also imposed upon them, founded on the notion of the possibility of contracting pollution in this way. Thus are the Hindoos, though a mild and humane race, rendered in the most ordinary actions of life, the most unsocial as well as the most irrational of mankind. Being occupied at every moment by some religious ceremony or other, and filled with the dread of pollution, they appear contemptible to those strangers whom they avoid as profane or impure. From the impossibility, in this manner imposed upon them, of uniting in any respect with the Tartars who conquered their country, they have sunk into a degraded and despised race; whereas, could they have united or mingled with the invaders, they must speedily have become as one people, and the evils resulting from conquest would gradually have been forgotten. They have persevered for ages in the same intellectual errors, because they have got possession of their imaginations, and because they want energy to cast off any habit or train of thought to which they have once submitted.

The Hindoos appear to be no less destitute of self command in their active than in their intellectual powers. Hence arises the unbounded superiority in all military enterprises which the Europeans possess over them. The attack of their armies is thus described by

Vol. II. Part. II.

Asia.

an ingenious writer: "It may perhaps afford some measure of gratification to European curiosity, to be informed, that the undisciplined troops of Asia, generally inflamed with *bang* and other intoxicating drugs, pour forth, as they advance, a torrent of menacing and abusive language on their adversaries. Every expression of contempt and aversion, every threat, fitted to make any impression of terror, or to excite ideas of horror, that custom readily presents or inventive fancy can suggest, accompanies the utmost ferocity of looks, voice, and gesture. A murmuring sound, with clouds of dust, announce their approach, while they are yet at the distance of several miles. As they advance, their accents are more and more distinctly heard, until at last, with their eyes fixed and weapons pointed at some individual, they devote him, with many execrations, to destruction; giving his flesh, like the heroes in Homer and the Philistine warriors, to the dogs, and the birds of the air and the beasts of the field. The numbers of the Asiatic armies, the ferocity of their manner, and the novelty of their appearance, would unnerve and overcome the hearts of the small European bodies that are opposed to them in the field of battle, if experience had not sufficiently proved how much the silence of discipline excels barbarian noise; and uniformity of design and action, the desultory efforts of brutal force, acting by starts, and liable to the contagion of accidental impression."

Indeed the superiority of Europeans over Hindoos is so great, that it is never balanced by almost any difference in point of numbers. If a body of European troops is only sufficiently numerous to cover a tolerable extent of ground, so that one part of them may rest while the other is on guard, and that advantage may be taken of the victory when gained, the event of the war is uniformly unfavourable to the feeble natives of this region. There seems to exist a defect in their moral nature, to which military discipline cannot afford a remedy. An European gentleman, though a stranger to the use of arms, if called upon by what he accounts his honour or his duty, is able, with an unchanging countenance, to meet the hazard of instant death, and can take the chance of giving or receiving destruction with little passion, and without exhibiting the external symptoms either of anger or of fear. The case is different with the mild and timid inhabitants of Hindoostan; they cannot meet danger with coolness and recollection, but are under the necessity of working themselves into a rage, which enables them to rush upon perils which they are unable calmly to encounter. Thus their fury is irregular and fruitless, like that of men under the influence of intoxication, while at the same time, if their passion decline for an instant, they are seized with sudden terror, and under its influence sometimes rush into greater perils than they wished to avoid. They possess throughout their country fortresses situated upon elevated and precipitous mountains, or surrounded by works of art of inconceivable solidity and strength. Many of these fortresses, under defence, would prove absolutely impregnable, and in this ardent climate the armies of their northern invaders might perish miserably before them; but these fortresses the Hindoos have been utterly unable to defend. They cannot long remain coolly and without passion on the defensive; in some moment or other of weakness they



Asia. become panic struck, and all is lost. They cast themselves headlong from the fummit of the walls, and sometimes, having murdered their wives and children, they cast themselves upon the weapons of their antagonists; finding death in this manner, though the agitation that accompanies their blind fury, prevents them from finding revenge for their calamities.

77  
What advantages arise from an intercourse with Hindoostan.

In every age, the inhabitants of Hindoostan, who want nothing from the rest of mankind, have received the gold and silver of other nations in return for the precious productions of their favoured soil: the sugar, the spices, the gems, and the valuable manufactures of the country, have at all times been sought, either by commerce or by conquest. But excepting these productions of nature, or of art, it does not appear that any valuable advantages can be derived from an intercourse with the people. Notwithstanding the high antiquity of their civilization, they are inferior in every branch of science to ourselves. Their moral and political speculations are extremely trifling, so far at least as has hitherto been discovered. Their poetry may have its beauties, but it undoubtedly equals not the productions of the north-western regions, that is, of Europe. It is probable, that the only branch of valuable knowledge which could be improved by an intercourse with the people of these countries is, that which concerns the construction of different machines, or the performance of processes connected with the various parts of manufacturing, agricultural, or domestic œconomy. They are understood to possess several machines of wonderful simplicity, and to perform many processes in an easier and less expensive mode than we are accustomed to do in Europe. They used, from time immemorial, the drill plough, which with us is a late invention. Their hand-mills for grinding grain are at once simple and effectual; as also their process of distillation. It ought to be recollected by the European nations, that they are but of yesterday when compared with the Hindoos; though we have outrun them in the career of intellect, or of general science, yet the improvement of the processes and instruments connected with the œconomy of ordinary life requires various successive experiments, which can only be performed during a great length of time, especially if these processes are not usually performed by persons conversant in the highest walks of literature. All newly invented machines and processes are apt to be complex, expensive, and imperfect. It is only after repeated trials and alterations that they are reduced to that simplicity which constitutes their excellence. Ample leisure has been allowed for these trials and improvements in the civilized nations of the East; and the simplicity of their machines, which deducts from their apparent importance, ought to be regarded as their perfection. They were probably invented by more ingenious men than those who now use them, and they probably had the same imperfections by which ours are at present affected; but succeeding generations gradually improved them, and they have at last come down into the possession of a degenerate race, incapable of discerning the value of tools in whose construction there is no seeming intricacy, though their gradual progress to the present state may have required much exertion from successive minds possessed of great energy and ingenuity. We may take the liber-

ty to suggest, therefore, to such of our countrymen as have occasion to reside for any length of time among this ancient people, that one of the most valuable services which they can perform to society in Europe might consist of executing and transmitting accurate descriptions of the different tools and machinery made use of by the Hindoos, and of the processes used by them in the different branches of their domestic œconomy and management. The discovery of the ancient code of Roman law at Amalphi in Italy, together with the introduction of Grecian literature after the taking of Constantinople by the Turks, gave to the European nations immense assistance in their progress to civilization, by exhibiting to them the practices and the sentiments of a former enlightened age, and thereby abridging their labour in the pursuit of intellectual improvement. A similar aid, or abridgment of the labours of invention, would in all probability be derived from a minute acquaintance with the practices and machinery employed with success during so many ages in the œconomy of Hindoostan.

78  
Eastern peninsula of India.  
79  
Andaman Isles.  
Symes's embassy to Asia.  
Leaving this mild, but timid and feeble race of men, we pass to the eastern peninsula of India, a narrow part of which stretches under the name of Malacca to within two degrees of the equator. Before advancing to the main land, however, we may notice towards the south-eastern part of the bay of Bengal a group of isles called the *Andamans*, chiefly remarkable on account of the singular people by whom they are inhabited. They are the northern division of a number of small islands, stretching from 10° 32' to 13° 40' N. Lat. and from 90° 6' to 92° 9' E. Long.: the southern division of these isles is called the *Nicobars*, inhabited by a mild and inoffensive people. What is called the *Great Andaman*, the chief of the northern division of islands, is 140 miles in length, and 20 in breadth. A settlement was established upon it by the British in 1793, and convicts are transported thither from Bengal. All that voyagers have related of uncivilized life is said to fall short of the barbarism of the people of Andaman. The ferocious natives of New Zealand, or the shivering half animated savages of Terra del Fuego, are in a state of refinement, compared to these islanders. The population of the Great Andaman and its dependencies amounts to little more than 2000 souls, whose sole occupation it is to rove along the margin of the sea in quest of a precarious meal of fish, which during the tempestuous season they often seek in vain. In stature, the Andamaners seldom exceed five feet. Their limbs are disproportionably slender, their bellies protuberant, with high shoulders and large heads; and, strange to find in this part of the world, they are a degenerate race of negroes, with woolly hair, flat noses, and thick lips. Their eyes are small and red; their skin of a deep sooty black; whilst their countenances exhibit the extreme of wretchedness, a mixture of famine and ferocity. They go quite naked, and are insensible of any shame from exposure. Two young women, allured by the temptation of fish, were secured, and brought on board a ship at anchor in the harbour: the captain treated them with great humanity: They soon got rid of all fear of violence, except what might be offered to their chastity, which they guarded with unremitting vigilance. Although they had a small apartment allotted to themselves, and had no real cause for apprehension,



Asia. henfion, one always watched while the other fleep. They fuffered clothes to be put on, but took them off again as foon as opportunity offered, and threw them away as ufelefs incumbrances. When their fears were over they became cheerful, chattered with freedom, and were inexpressibly diverted at the fight of their own perfons in a mirror. They were fond of finging, fometimes in melancholy recitative, at others in a lively key; and often danced about the deck with great agility, flapping their posteriors with the back of their heel. Wine and fpirituos liquors were difagreeable to them; no food feemed fo palatable as fifh, rice, and fugar. In a few weeks, having recovered ftrength, and become fat, from the more than half-famifhed ftate in which they were brought on board, they began to think confinement irkfome, and longed to regain their native freedom. In the middle of the night, when all but the watchmen were afleep, they paffed in filence through the captain's cabin, jumped out of the ftern windows into the fea, and fwam to an ifland half a mile diftant, where it was in vain to purfue them, had there been any fuch intention; but the object was, to retain them by kindnefs, not by compulfion; an attempt that has failed on every trial. Hunger may (and thefe inftances are rare) induce them to put themfelves in the power of ftrangers; but the moment that want is fatisfied, nothing fhort of coercion can prevent them from returning to a way of life more congenial to their favage nature. The few implements they ufe are of the rudeft texture; a bow from four to five feet long; the fring made of the fibre of a tree, or a flip of bamboo, with arrows of reed, headed with fifh bone, or wood hardened in the fire, is their principal weapon. Befides this, they carry a fpear of heavy wood, fharply pointed, and a fhield made of bark, to defend themfelves from the affaults of their enemies; for even thefe poor wretches have rights to affert and dignities to maintain. Neceffity has taught them an expert management of their arms, on which they rely for fubfiftence. Happily for them, their numerous bays and creeks abound with fifh, which they fhoot and fpear with furprifing dexterity. They are faid alfo to ufe a fmall hand-net made of the filaments of bark: the fifh, when caught, are put into a wicker bafket, which they carry on their backs. Having kindled a fire, they throw the food on the coals, and devour it half-broiled. A few diminutive fwine are to be found in the fhirts of the forefts, and among the mangrove thickets in the low grounds; but thefe are very fcarce, and are probably the progeny of a flock left by former navigators. When a native has the good fortune to flay one, he carefully preferves the fhull and teeth, to ornament his hut. They crofs the bays, and go to fifh, either in canoes formed of a hollow tree, or on rafts of bamboo, which they direct by paddles. Their habitations difplay little more ingenuity than the dens of wild beafts; four fticks ftuck in the ground are bound together at the top, and faftened tranfverfely by others, to which branches of trees are fufpended; an opening is left on one fide, juft large enough to admit of entrance;—leaves compofe their bed. Being much incommoded by infefts, their firft occupation in a morning is to plafter their bodies all over with mud, which, hardening in the fun, forms an impenetrable armour. They paint their woolly heads with red ochre and water. When

thus completely drefsed, a more hideous appearance is not to be found in human form.

Although their principal food confifts of fifh, yet they eagerly feize on whatever elfe presents itfelf: lizards, guanas, rats, and fnakes, fupply a change of repaft. The vegetable diet of the Andamaners confifts of the natural produce of the woods, in which the refearches of Europeans find little that is palatable or nutritious. The fruit of the mangrove is principally ufed, having often been found in their deferted habitations, fteeping in an embanked puddle of water. As they have no pot or vefel that can bear the action of fire, they cannot derive much advantage from fuch efculent herbs as the forefts may contain; indeed, their extenuated and difeafed figures too plainly indicate the want of wholefome nourifhment. Unhappily for them, the cocoa-nut, which thrives in the utmoft luxuriance in the neighbouring ifles, is not to be found here; but they are extremely fond of it; and whenever a nut was left in their way by the fettlers, it was immediately carried off with much apparent fatisfaction.

There are feveral forts of trees on the ifland; among which are, the *ficus religiofa*, or banyan tree, the almond tree, and the oil tree; which latter grows to a great height, and from it a very ufeful oil is thus produced:—A horizontal incifion being made in the trunk, fix or eight inches deep, a chip fourteen or fifteen inches long is cut at right angles, and the furface of the incifion being hollowed and filled with live coals, the turpentine, or wood oil, exudes copioufly from the top of the wound. The peniagre tree is alfo found, and is well adapted for the knees of fhips; and the iron tree, of ftupendous fize, whofe timber almoft bids defiance to the axe of the wood-cutter; the red wood, which makes beautiful furniture, little inferior to fine mahogany. Befides thefe, there are numberlefs creepers and rattans which furround the ftems of the larger trees, and, interwoven with each other, form fo thick a hedge, that it is impoffible to penetrate far into the forefts, but by the flow and laborious procefs of cutting a road.

It is a fort of hiftorical myftery how a race of negroes fhould be here found, a people fo widely differing, not only from all the inhabitants of that vaft continent in which the ifland of Andaman is embayed, but alfo from the natives of the Nicobar iflands, which are immediately contiguous to it. Some have fuppofed, that a Portuguefe vefel, early in the fixteenth century, laden with flaves from Africa, may have been caft on thefe fhores, and that the prefent Andamaners are the defcendants of fuch as efaped drowning. This conjecture, however, is proved to be erroneous, from an account of the Andamaners given by two Mahometan travellers, long before the navigation of thofe feas by Europeans. But an accident fimilar to that now fuggefted may poffibly, at fome period or other, have occurred to an Arabian vefel, as that people are known to have failed upon the Indian ocean as early as the feventh century; and they not only explored the continent of India as far as the Chinefe fea, but likewife gained a knowledge of moft of the Eastern iflands.

Returning from thefe iflands to the province called *Chûttagong*, which forms the extremity on the eaft of the Britifh Eaft India Company's poffeffions, as well as the boundary in that quarter of the territory of Hindooftan, we enter upon the farther or eaftern peninfula



of India. From Chittagong, proceeding southward along the eastern shores, the coast is fertile and rich for a considerable distance within land, forming the ancient kingdom of Aracan. Parallel to the coast runs a chain of lofty and precipitous mountains, forming the boundary of Aracan to the eastward. Beyond these mountains eastward is a level and fertile country, containing rivers which, descending from the regions of High Tartary already mentioned, descend southward along the peninsula, fertilizing the soil by their periodical floods, and forming at their mouths a great extent of low and fertile territory, or delta land. The country to the south-east of Aracan is called *Pegu*; that to the east has long been called *Ava* by Europeans, from the name of the former capital, but is called by the people of the country, *Birmah*, and the people themselves *Birmans*. This last people, the Birmans, have recently subdued both of the kingdoms called *Pegu* and *Aracan*, and form at the present period a rising empire of great importance in the east, and well deserving our attention. Though their territories are only divided from those of the British East India Company by a narrow chain of mountains, and at one place by a trifling river called the *Naaf*, yet it was only very lately that they were at all known to the Europeans in that quarter as a neighbouring power of any consideration, our connexion with them having formerly been merely in the way of commerce carried on from their southern ports, near the mouth of the bay of Bengal. The following circumstance gave rise to farther inquiries concerning them:—The trade of Aracan had suffered by the attacks of some robbers, or pirates, who infested the rivers near the coast. They conveyed their plunder across the river Naaf into the Chittagong province, where, being secured from pursuit under the protection of the British flag, they disposed of their spoils to advantage, and lived at ease till returning want impelled them to resume their predatory excursions. On its being ascertained that three of the most distinguished of the robbers had sought refuge in the British districts, the king or emperor of the Birmans sent one of his officers into the East India Company's territories at the head of 5000 men, with injunctions to the commander to bring with him the delinquents, dead or alive, and not to return without them. To support this detachment, an army of 20,000 men was held in readiness at Aracan.

82 Senee Nunda Kiozo, the Birman chief, having crossed the river Kaaf, and encamped within the Company's territory on the western bank, sent a letter to the British magistrate of Chittagong, acquainting him of the reasons for the inroad; that the seizure of the delinquents was his sole object, without harbouring any design of hostility against the English. At the same time he declared, that, till the delinquents were given up, he would not depart from the Company's territory. In confirmation of this threat, he fortified his camp with a stockade. These matters being reported to the British government at Calcutta, the refugees were ordered to be apprehended and kept in custody; and, in the mean time, detachments of Europeans, and of Indian troops in their service, called *Sepoys*, with proper artillery, were sent to the spot under Major General Erskine. On the approach of General Erskine, the Birman general sent a flag of truce to pro-

pose terms of accommodation, stipulating for the surrender of the fugitive pirates as the basis of the agreement. It was replied, that no proposal could be listened to while the Birmans continued on the British territory; that, unless they departed from it in a limited time, force would be used; but that, if they would withdraw peaceably, the subject of their complaints would be discussed. On receiving this answer, the Birman chief, with a manly confidence in the character of his antagonists which commanded respect, personally waited on General Erskine, and stated the nature of his instruction, the enormity of the offenders, and the outrages they had committed. General Erskine assured him that the British government had no desire to afford an asylum to robbers; that it had no objection to do justice; but insisted, that in the first instance, the Birmans ought to retire peaceably from the British territory. The Birman general, in consequence of these assurances, professed his reliance on General Erskine, and agreed to withdraw his troops. The retreat was conducted in the most orderly manner; and so strict was the discipline of the Birman army, that not one irregular act was committed while they remained within the Company's territory. The charges against the refugees were afterwards investigated, and their guilt being clearly established, they were delivered over to their own laws, by whose sentence two out of the three underwent capital punishment.

This event called the attention of the British government in India towards the Birmans, a people evidently of a superior character to the Hindoos, whose territory was in their vicinity, and with whom, by their southern ports, a very extensive commerce had, within a few years, sprung up; which, in the single article of teak-wood, already required an annual return of Indian commodities to the amount of 200,000l. sterling. It therefore appeared a matter of importance to enter into something in the nature of a commercial treaty with this power, at least to the effect of obtaining regular protection for our merchants when visiting their ports. With this view, and to obtain farther intelligence concerning the nature of the government, the character of the people, and the advantages to be derived from intercourse with them, the governor general of Bengal, Sir John Shore, sent by sea to the principal Birman port a regular embassy; at the head of which was Michael Symes, Esq; then a captain in the British army. From the information obtained and published in consequence of this embassy, the following account of the Birmans and their empire is extracted.

As already noticed, the Birman empire extends along the western coast of the eastern peninsula of India, or forms the eastern side of the bay of Bengal. It approaches the frontier of China on the north-east, and is limited on the north by the rugged and mountainous country which forms the south-eastern front of the high region of Tartary, being a continuation to this quarter of the great chain of Imaus. From the foot of that elevated region, this, like the western peninsula of India descends gradually to the south, and the rivers proceed in that direction till the largest of them terminate near Cape Negrais in the south-eastern quarter of the bay of Bengal, where the coast turns suddenly eastward to a considerable distance; after which it proceeds as formerly to the south. The principal

81 Birmah.

82 Birman army entered the British territory in India.

83 British embassy to the Birmans. Vide Symes's embassy.



Asia.

principal towns of the Birman empire stand upon the rivers; and the British embassy sailed up the chief river, the Irrawaddy or Erabatty, to a great distance, till they reached Ummerapoora, the present capital of the Birman dominions.

84  
History of  
the Bir-  
mans.

The Birmans and the people of Pegu have long been rival states. The Birmans, though formerly subject to the king of Pegu, revolted about the middle of the sixteenth century, and appear to have acquired a superiority over the Peguers which continued down to about the year 1740. At that period a war took place, which was prosecuted on both sides with savage ferocity; but as the Peguers, living to the southward near the mouth of the navigable rivers already mentioned, had a considerable intercourse with European traders, from whom they could purchase better arms than are manufactured in the east, they gradually obtained a superiority, and gained several victories over the Birmans in the years 1750 and 1751. These advantages were so vigorously prosecuted, that in the year 1752 the Birman capital Ava was invested. The Birmans, dispirited by repeated defeats, and probably ill commanded, after a short siege Diveepdee, the last of a long line of kings, was made prisoner with all his family, except two sons who escaped to Siam. Beinga Della, king of Pegu, left his brother Apporaza as governor of Ava, and carried to Pegu the captive Birman king. Thus a complete conquest appeared to be effected. The landholders and principal inhabitants of the country round Ava submitted, and took an oath of allegiance to the king of Pegu, who in an insolent proclamation, announced the annexation of the Birman country to the Pegu monarchy. In the mean time, a Birman of low extraction, Alompra, aspired to become the deliverer of his country. He had submitted like the rest, and was continued by the conqueror in the command of an inconsiderable village Monchaboo. Here he had no more than 100 devoted followers, upon whose intrepidity and fidelity he could rely. This village, like most of the Birman towns, was surrounded by a stockade. This he strengthened and repaired without awakening any suspicion in the Pegu conquerors, who never suspected that so inconsiderable a person would attempt a rebellion. In Alompra's village of Monchaboo there were, no more than 50 Pegu soldiers, who treated the Birmans with great arrogance: Taking advantage of the indignation excited by some particular act of indignity, Alompra encouraged his followers to attack the Pegu soldiers, and he put every one of them to the sword. Even after this act of rebellion, Alompra disguised his intention with a view to gain time. He wrote to the brother of the Pegu king Apporaza, who had been left governor of Ava, expressing much humility and regret for what had happened, professing his fidelity to the Pegu government, and representing the massacre as the result of an accidental quarrel between the Pegu soldiers and the people of his village. These assurances prevented vigorous measures from being taken with sufficient speed against him. Apporaza, having pressing business at Pegu, left Ava under the government of his nephew Dotachew, with instructions to keep Alompra as a prisoner. Accordingly about a thousand men were sent to occupy Alompra's turbulent village, and to send himself to Ava. They expected no opposition, and

85  
Alompra,  
first of the  
present  
Birman dy-  
nasty.86  
Alompra's  
rebellion.

came ill prepared for it. They were not a little disconcerted to find the gates of the stockade around the village shut against them on their arrival, which was late in the evening; and at day-break next morning they were suddenly attacked and routed by the Birmans. Alompra, having thus involved a small party of his countrymen in rebellion against their conquerors, represented to them that there no longer existed for them any safety but in victory; that they would never be forgiven, and must resolve to conquer or perish. He invited the Birmans of the neighbouring towns to join his standard, and he found a small number who were willing to embrace his apparently desperate fortunes: with these he adopted the sudden resolution of marching towards Ava the Birman capital, before the numerous detachments of Peguers that were scattered over the provinces could be recalled for its defence. As he advanced, fame magnified his numbers. The governor of Ava, who had not more than 3000 men, was disconcerted; and, despairing of success, deserted that city with his troops, and a few of his countrymen who remained behind him were put to death by the populace. Instead of advancing in person, Alompra now sent his second son Shembuan to take possession of Ava. These events occurred in autumn 1753. In consequence of his first success Alompra's reputation became unbounded. His countrymen everywhere revolted, and attached themselves to him as their deliverer. The Pegu king was alarmed for the northern districts of his own territory, in which the Birman population exceeded that of the Peguers. A large force was collected under Apporaza the Pegu king's brother. It consisted of an army, and of a numerous fleet of war boats, which sailed up the Irrawaddy to reduce the insurgents. He laid siege to Ava where Shembuan held out 40 days, till his father Alompra advanced to his aid. Apporaza raised the siege, and went to encounter Alompra. The contest was chiefly confined to the fleet; the armies only skirmishing on shore. Shembuan having advanced from the fort of Ava to attack the rear of the Peguers, they gave way and fled with precipitation, suffering great slaughter in their retreat. The Peguers, enraged by these misfortunes, put to death the dethroned monarch of the Birmans, together with all the principal men of his nation, to the amount of several hundreds, that were in their power, under pretence that they had been detected in a plot against their conquerors. This only rendered the mutual hatred of the nations more violent; and in several towns the Birmans rose upon the Pegu garrisons, and massacred the whole of them.

In the mean time Alompra continued to improve his fortune, and avowedly endeavoured to establish in his own person the sovereignty of his country. When the son of the late king attempted to return, he drove him back to his asylum among the Siamese. Towards the end of the year 1754 the Pegu king Beinga Della, with a considerable army, laid siege to Prome, a frontier town defended by a solid wall, a deep ditch, and a strong stockade. The Birmans successfully resisted a general assault, and the Peguers had recourse to a blockade. Alompra sent 36 war boats to the assistance of the town, which stands upon a river; the commander of these threw himself with a considerable supply of men and provisions into the town, and sent back his boats, only a few of which were taken. After

Asia.

87  
Alompra's  
success.

88

Alompra  
royalty.



Asia.

a farther delay of six weeks Alompra arrived in person, and attacked the Peguers both by land and water. Instead of keeping up a fire of musquetry as usual, the boats closed, and, after a desperate engagement, the Peguers abandoned the siege. The tide of success was now so completely turned, that the war was become defensive on the part of the king of Pegu. He retired to his capital, which being near the sea coast, the contest became a kind of maritime warfare in the mouths and creeks of the rivers; which last are extremely numerous in the low delta land near their mouths. At this time both the French and English were in possession of factories in the Pegu country, and both the Peguers and Birmans solicited the assistance of the strangers, being abundantly sensible that a few ships of burden furnished with guns would give a vast advantage to either party in a contest against the war boats used in their country. In the course of the year 1755 both the French and English appear to have entered secretly into separate negotiations with each of the parties, and to have promised aid to each of them. Both of them ultimately broke faith with Alompra, and joined the people of Pegu. Notwithstanding this assistance, the Birman leader continued to enjoy a career of success. He was victorious on land, and the aid of the foreigners by water only produced a slight degree of embarrassment. At one time three English ships and one French ship assisted the Pegu force, consisting of 200 armed boats, while 10,000 men marched along with them as a land force; but the Birmans disconcerted the attack by a stratagem. With considerable ingenuity they constructed fire-rafts, consisting of a number of boats fastened together, and filled with combustibles. These rafts were floated with a strong spring tide to where the European ships lay at anchor, and directed with such skill and effect as to oblige them to slip their cables and remove, the French ship narrowly escaping destruction. Alompra at last succeeded in cutting off the communication between Pegu and the sea. A French ship coming to the assistance of the Peguers was taken by surprise; and as her papers proved the object of her voyage, her officers were put to death by the order of Alompra: other foreigners, however, particularly the English, taken in the important Pegu town of Syriam, were suffered to depart unmolested, though he had sufficient reason to complain of their countrymen. Alompra was at last, in consequence of his successes in every quarter, enabled to lay siege to Pegu itself the capital of his enemies. It was situated on an extensive plain, surrounded with a high solid wall, flanked by small towers, and strengthened on each face by demibastions equidistant. A broad ditch contained about three feet depth of water, and the pagoda of Shoemadoo, which will be afterwards described, served as a citadel. Circumvallation is a favourite mode of warfare with the Birmans, as they are almost destitute of cannon, and therefore trust rather to famine than to force. Having invested Pegu, and erected numerous stockades both to hem in the town, and to secure his own army against external attack, Alompra, in the month of January 1757, resolved to wait patiently till the want of supplies should bring the city into his power. After a siege of two months the numerous population of Pegu became mutinous in consequence of want. The king summoned a council of

his family and chiefs, and proposed to sue for peace, on condition of being allowed to govern his country, consenting to do homage for it to the Birman monarch. The proposal was accepted by Alompra; but as a preliminary the Pegu king was under the necessity of surrendering to the conqueror his only unmarried daughter. For some days the peace seemed restored, and the besiegers and the besieged mingled with each other in amity; but Alompra, probably with a treacherous intention, having introduced some soldiers in disguise into the town, they were seized and put to death by order of the king of Pegu's nephew Choupavea. Hostilities recommenced, and at last the king of Pegu, who appears to have been a timid man, privately admitted the Birmans into the city, on condition that his own life should be spared; the town itself was delivered up to plunder.

Alompra, thus successful, extended his power over several surrounding provinces, and rendered Moncha-boo, his original residence, the seat of imperial government. While upon an expedition to Cassay, a northern province of his empire, the Peguers revolted, but were defeated on his return. On this occasion he was led to suspect, that the persons belonging to a British settlement at the island of Negrais, had given assistance to the revolters: They were suddenly attacked, therefore, by his orders, in October 1759, and most of them destroyed. A few escaped in two vessels, the Shaftesbury and the Victoria. Alompra next made war upon his neighbours on the east, the Siamese, accusing them of assisting his enemies of Pegu, and of assisting conspiracies against his authority. He undertook an expedition against the capital of Siam; the enemy harassed his march, but did not hazard a decisive engagement. In a month he reached the vicinity of the metropolis, which prepared to sustain a siege; but here the career of Alompra terminated. He was taken ill of a mortal disease, said to be a species of scrophula. He foresaw his end, and gave orders for an immediate attack; but he died on the 15th of May 1760, before he reached his capital. He was deeply regretted by his people, who admired his talents and his success, and regarded him as their deliverer from a foreign yoke. He is represented as having performed no less service to his country by the laws which he enacted, than by the battles which he fought. In particular, he reformed the administration of justice, prohibited magistrates to sit in judgment, unless in a public place, and required every decree to be registered. He also issued edicts against gaming, and the use of spirituous liquors in his dominions.

The Birman law vests the right of succession in the eldest heir male; but, upon the death of Alompra, his second son, Shembuan, made an attempt to seduce the army and to seize the throne. Receiving little support, he submitted to his eldest brother, Namdogee Praw, who, at the request of their common mother, received him into favour. One of Alompra's generals, called Nuttoon, was a more dangerous rival. A division of the army under his command seized upon the city of Ava. He expected succours from Siam, but was disappointed; and being besieged in Ava, he was reduced to great distress. He tried to make his escape; but was taken and put to death with most of his adherents. The destruction of Nuttoon did not put an end

Asia.

89

Pegu taken.

90

Massacre of the British.

91

War with Siam.

92

Death of Alompra.

93

Alompra succeeded by his eldest son, Namdogee Praw.

to



Afia. to the disturbances that agitated the Birman empire. A younger brother of Alompra, who held a considerable government, aspired to independence; but he also was taken in his fortrefs, after a siege of three months. His life was spared, but he was kept a close prisoner. Namdogee Praw died at his capital in March 1764, of the same disease that brought his father to the grave, leaving one son, Monien, an infant. Shembuan, the second son of Alompra, now seized the government as king; and the child of his elder brother was educated in religious obscurity, as a rhahaan or priest. Shembuan's first undertaking was a war against the Siamese, whose country, in the year 1766, he entered at different points with three armies; which after some resistance, effected a junction. Having approached the capital, a general battle was fought, in which the Birmans were successful, and invested the capital of Siam. Each party had some artillery, which was of little service; and the Birmans had recourse to blockade, which as already noticed, is their favourite system of warfare. After a two months siege, the king of Siam secretly made his escape. The city capitulated, and a Siamese governor was appointed, who swore allegiance, and engaged to pay tribute to the Birman monarch.

94  
Shembuan  
obtains the  
throne.

95  
Invades  
Siam.

96  
The Chi-  
nese invade  
Birmah.

In the beginning of the year 1767, a Chinese army invaded the Birman empire. Shembuan prepared to meet this danger; and it appears that, in consequence of the numerous wars in which they had recently been engaged, the Birmans were enabled to act upon this occasion with a considerable degree of military skill and energy. They formed two separate armies; one consisting of 10,000 infantry and 2000 cavalry, was sent to meet the invaders. They accordingly advanced, and encamped within eight miles of the Chinese army. On the following day, an action took place in which the Birmans were worsted and retired. The Chinese, elated by their success, pressed eagerly forward, and were in this manner drawn to a considerable distance into the country. In the mean time, a second Birman army, amounting to 30,000 men, had taken a circuitous road, and got into the rear of the Chinese. The army in front now made a stand, and the invaders found themselves hemmed in on all sides. The Tartar cavalry, on whose activity the Chinese army depended for provisions, would no longer venture out either to procure supplies or to protect convoys. The Birmans now attacked their enemy with impetuosity, who resisted with a resolution founded on despair. The conflict lasted three days, and the Chinese at last attempted to cut their way through the weakest part of the Birman line. This attempt proved fatal. The Birmans, sure of being reinforced, maintained their ground till the troops of both their armies arrived to their assistance. The Chinese now sunk under the pressure of an attack from numbers which were increasing every hour. The carnage was dreadful, as the Birmans are extremely ferocious and unrelenting in war. Of the Chinese army not a man returned to his native country. About 2500 were preserved from the sword and conducted to the Birman capital, where they were employed in such occupations as they understood, without any other reward for their labour than a bare subsistence.

Meanwhile, Shembuan's successes against the Sia-

me were attended with no permanent advantage. His armies were no sooner recalled than his authority was openly disregarded. He sent one of his generals once more into their country; but he met with such opposition as compelled him to retreat and to demand reinforcements. This last request was complied with, in a manner that produced a serious danger. One of the viceroys of the southern parts of the empire was commanded to raise the necessary supplies; but as his jurisdiction was inhabited chiefly by families of Peguers, he had no sooner assembled his recruits and placed arms in their hands, than they became conscious of their own strength, and were seized with a desire to regain their empire. They rose upon their Birman officers and companions, and commenced an indiscriminate slaughter. It was not till after an army of 20,000 men was assembled, with 24 pieces of cannon, besides a great number of war boats, that they could be subdued. While this struggle was going on in the lower part of the empire against the people of Pegu, now considered as rebels, Shembuan followed out a plan of conquest to the north-west, in the country called *Cassay*. His troops even penetrated within what are called the *Himmaleh hills*, which form a continuation of the lofty Imaus, and which descending towards the extremity of the bay of Bengal, seem to be a barrier raised by nature to protect the unwarlike inhabitants of Hindoostan from the more hardy natives of the east. Shembuan lost a great number of troops in attacking the chiefs or rajahs of these hilly countries, but at last succeeded in subduing a great number of them, though the conquest could be of little utility, as possession of these rude territories could scarcely be retained.

On his return from this north-western expedition, Shembuan went southward to visit his Pegu territories, which had so recently been involved in civil war. On this occasion he pretended to discover that the old king of Pegu, who had been taken by Alompra, and had remained all this while in prison, had engaged in some kind of conspiracy. In consequence of an accusation to this effect, the dethroned monarch underwent the form of a trial, was condemned and put to death. Many persons of rank, of the race of the Peguers, were also put to death on this occasion, under pretence that they had given countenance or aid to the late rebellion.

These were among the last transactions of Shembuan's life. He died in the city of Ava, about the middle of spring, in the year 1776. He was succeeded by his son Chenguza, who appears in every respect to have been incapable of exercising dominion with any tolerable degree of propriety. He degraded his father's most respectable officers, and plunged into the most shameful debauchery, which he avowed openly by repealing the edict against the use of spirituous liquors. He put to death a younger brother, from jealousy of his ambition, employed himself wholly in hunting, and left public affairs to be managed by favourites. He also put to death one of his uncles, kept another of them close prisoner, and watched vigilantly a third of them, who affected to live in the most inoffensive obscurity. In a fit of jealousy, he also put to death his wife in a public and open manner, and having at last rendered himself both odious and terrible, a conspiracy

Afia.

97  
Old king of  
Pegu put  
to death.

98  
Death of  
Shembuan.  
99  
Chenguza  
succeeds to  
the throne.

was



Aſia.

was formed againſt him, at the head of which was his uncle Minderagee Praw, the reſult of which was, that the latter obtained poſſeſſion of the throne, and Chenguza, deſerted by all the world, was killed by the father of the wife whom he had put to death, though the ſlayer was afterwards alſo put to death, under pretence of having ſhed royal blood contrary to the expreſs letter of the law of the Birmans.

100  
Minderagee ſucceeds to the throne.

Shembuan Mia Shean Minderagee Praw, the fourth ſon of the deceaſed Alompra, thus ſucceeded to the poſſeſſion of the empire. In the firſt days of the conſpiracy, a pretence had been made that the object of it was to raiſe to the throne Momien, the only child of Namdoojee Praw the eldeſt ſon of Alompra; but this pretence was ſpeedily laid aſide, and in eleven days after his acceſſion to the throne, he was put to death. Minderagee Praw, notwithstanding the manner in which he obtained the ſovereignty, is underſtood to have governed well, and he was upon the throne when the Britiſh envoy, Captain Symes, viſited that country. While he led a private life, however, this monarch is repreſented as having imbibed much of the ſuperſtition that ſo ſtrongly characterizes every form of religion in the eaſt. During his days of leiſure he had directed much of his attention to aſtronomy, and became a thorough believer in judicial aſtrology. Some few Brahmins, had for ages been accuſtomed to emigrate from Caſſay and Aracan, to Ava, where, on account of their ſuperior knowledge, they were employed as profeſſors of ſcience. A college was eſtabliſhed and lands appropriated for its ſupport. Theſe Brahmian doctors compoſed almanacks, calculating eclipſes; and from their intercourſe with the planets, pronounced the propitious hour and ſeaſon to attempt any momentous undertaking. Long before his elevation, theſe Brahmins had foretold to Minderagee Praw the fortune that awaited him. The accompliſhment of their prophecy confirmed their influence over him. He appointed a certain number to be his chaplains, who, on court days, arrayed in white robes and ſtanding round the throne, chaunt a ſolemn benediction in melodious recitative. This ceremony is performed as ſoon as the king aſcends the imperial ſeat, and before the commencement of public buſineſs. Prompted by the perſuaſions of his counſellors, Minderagee reſolved to withdraw the ſeat of government from Ava, and to found a new city. The ſite fixed on for the projected ſettlement was judicious: about four miles north-eaſt of Ava, there is a deep and extenſive lake called *Toungemann*, formed by the influx of the river during the monſoon, through a narrow channel, which afterwards expands and diſplays a body of water a mile and a half broad, and ſeven or eight miles long. This lake firſt takes a northerly direction, nearly parallel with the river; it afterwards curves to the ſouth-eaſt, in a leſſening ſheet, and diminiſhes to a morafs favourable to the culture of rice. When filled by the periodical rains, the lake with the river on one ſide, encloſes a dry and healthy peninſula, on which *Ummerapooa*, the name given to the new city, now ſtands. Buildings in the Birman country are compoſed for the moſt part of wood; and water carriage being here convenient, the old town was ſpeedily demolished, and the preſent capital roſe from its materials; whiſt ſuch was the aſſiduity uſed in removal, that Ummerapooa became, in a ſhort time, one of the

101  
New capital Ummerapooa.

moſt flouriſhing and well built cities of the eaſt. The fort likewiſe, which is ſpacious and regular, is completely fortified after the Aſiatic manner. A lofty rampart, protected by a parapet, and ſtrengthened by baſtions compoſed of excellent maſonry, is further ſecured by a deep and broad ditch, faced with brick and filled with water: the gateways are guarded by cannon, and retrenchments defend the paſſes of the ditch. The new monarch ſoon reſolved to extend his dominions weſtward, by the conqueſt of Aracan. This country, as already mentioned, is ſituated to the weſtward of Ava, along the ſhore of the bay of Bengal, but the direct road is embarrassed by a chain of mountains 56 miles in breadth. The road is ſo difficult that an enterpriſing people might eaſily have defended the paſſes againſt any ſuperiority of number; but the Birman king knew too well the indolent character of the king of Aracan, and the unwarlike diſpoſition of his ſubjects, to dread any vigorous oppoſition. This country, however, had never been completely conquered: the Moguls on the weſt, the Peguers on the eaſt, and the Portugueſe from Europe, had at different times carried their arms into the heart of the country, but after theſe paſſing inroads Aracan had always recovered its independence. The difficulty of conqueſt, on the preſent occaſion, conſiſted chiefly of finding a way into a country ſo well defended by nature. The range of lofty mountains, already mentioned, nearly encircles it on the eaſt. From the ſouthern quarter at Negrais Aracan could only be invaded by water, through the many rivers that interſect the country adjacent to the ſea. From the ſide of Chittagong, entry into Aracan muſt be effected by a march along the ſea beach, which is interrupted by ſeveral channels, that owe their waters chiefly to the action of the tide. The coaſt, however, is extremely well adapted to commerce, by the various large and well cultivated iſlands which it poſſeſſes, and the variety of channels by which veſſels can paſs into the country, which to the mountains is everywhere low and well watered. The trade of Aracan has not indeed been very conſiderable. It is confined to ſalt, bees wax, elephants teeth, and rice. This latter article is produced in ſuch abundance, that it might be improved into a lucrative branch of commerce. Poſſeſſion of Aracan and its iſlands is not only coveted by the Birmans, on account of the fertility of the ſoil, but alſo from the protection it might afford to their boats, which navigating along the coaſt make an annual voyage to Chittagong and Calcutta, where they diſpoſe of the produce of their country, and in return bring back cloth and the commodities of India.

Aſia.

102  
Invaſion and conqueſt of Aracan.

In the year 1783, the Birmans accompliſhed their intended invaſion, by attacking Aracan in different detachments, a part of which croſſed the mountains while others went round by water. After a naval engagement, which terminated in favour of the invaders, the king of Aracan took flight with his family; but being cloſely purſued, he was taken priſoner, and conducted to the Birman capital, where he was treated with humanity, but died in the courſe of a year. The town and poſt of Aracan fell after a faint reſiſtance. The booty found in it was conſiderable, but on nothing was a higher value placed, than on an image of burniſhed braſs of the god of the Birmans called *Gaudma*, or *Boodh*,



*A. fia.* *Boodh*, or *Budboo*. The figure is about 10 feet high in the customary sitting posture with the legs crossed, the left hand resting on the lap and the right pendent. This image is believed to be an original resemblance, taken from life, and is so highly venerated, that pilgrims have for centuries come from the remotest countries, even Ceylon, China, and Japan, where the supremacy of Gaudma is acknowledged, to pay their devotions at the feet of his brazen representative. There were also found five images of Rakufs, the dæmon of the Hindoos, of the same metal and stature. These were valued as guardians of the sanctity of the idol. A singular piece of ordnance was also found of enormous dimensions, composed of huge bars of iron beaten into form. This ponderous cannon measured 30 feet in length, two feet and a half in diameter at the mouth, and 10 inches in the calibre; it was transported to Ummerapooora by water, and deposited in the yard of the royal palace, where it is now preserved as a military trophy; it is mounted on a low carriage supported by six wheels, and is covered from the weather by a wooden pent house. Gaudma and his infernal guards were, in like manner, conveyed by water to the capital, with much pomp and superstitious parade.

103  
Aracan  
now a Bir-  
man pro-  
vince.

Since this period Aracan, with its dependencies, has constituted a province of the Birman empire, and is governed by a maywoon or viceroy. Birman troops are distributed in the different towns, and lands were granted to many Birmans, on condition that they should come with their families and settle in the country. The valuable acquisition of Aracan, did not satisfy the ambition of Minderagee Praw, and he speedily turned his arms against the Siamese, his neighbours on the south-east. From the year 1785 to 1793, he carried on against them a very sanguinary war, in which he suffered a considerable number of defeats, though the Siamese could make no progress against him upon his own territory. At length the Siamese proposed a negotiation, which terminated in a treaty of peace, very favourable to the Birman interests, as the Siamese consented to relinquish to them a considerable extent of territory to the southward, on the western side of the peninsula.

104  
Extent of  
the Birman  
empire.

The result of all these acquisitions is, that the Birman empire upon the whole, at present, appears to include the space between 9° and 26° N. Lat. and between 92° and 107° E. Long. from Greenwich, or about 1050 geographical miles in length, and 600 in breadth. These are stated as the ascertainable limits taken from the Birman accounts, though it is thought that their territories stretch still farther to the north; but it must be remarked, that in the southern parts the breadth often varies, and is in many places very inconsiderable. On the whole, however, they possess a territory superior in extent to the German empire. But their perpetual wars, especially their sanguinary contests with Pegu and Siam, have greatly depopulated their country; and here, as in every other part of the world, it has been found, that war, while it ruins the vanquished, is seldom the source of internal prosperity to the victorious nation. From what can be discovered, there is no reason to believe that their present population, including Aracan, exceeds 17,000,000. Yet the soil of the southern provinces of the Birman empire is remarkably fertile, and produces as luxuriant

VOL. II. Part II.

crops of rice as are to be found in the finest parts of Bengal; but extensive plains, on which the vestiges of former culture and population are abundant, remain without a single house or inhabitant, having been desolated by the ravages of war, during the contests of Birmans and Peguers, so that the finest territories in the world have in many places of this empire become, for a time at least, the undisputed domain of the wild beasts of the forest. In the northern parts of the empire, the country becomes irregular and mountainous; but the plains and valleys, particularly near the rivers, are exceedingly fruitful. They yield good wheat, and the various kinds of small grain, which grow in warm climates, with the different sorts of esculent vegetables: sugar canes, tobacco of a superior quality, indigo, cotton, and the different tropical fruits in perfection, are all natural products of this favoured land.

*A. fia.*

The climate of every part of the Birman empire, is said to testify its own salubrity by the best of all criterions, the appearance and figure of the natives, who appear equal in strength and activity to any other race of men in the world. The seasons are regular, and the extremes of heat and cold are seldom experienced, at least the duration of that intense heat, which immediately precedes the commencement of the rainy season, is so short, that it incommodes but for a very little time. During the residence of the British embassy in the country, only one man was lost by disease. Another met an accidental death; in wandering through the woods he became the prey of a tiger.

105  
Climate.

One of the most valuable productions of this empire is the teek tree, which grows in vast abundance in the southern parts of the empire, near the great rivers. This article alone renders a free commerce with the Birmans of vast importance to the British settlements in India. Teek wood, so absolutely necessary for the navigation of the eastern seas, cannot be conveyed from the Malabar to the Coromandel coast of the western peninsula of India, or to Calcutta, but at an expence so great as to preclude the attempt. This wood grows indeed on the banks of the river Godavery, but the impediments to procuring it from that quarter have hitherto been found insurmountable. Hence a great part of British India depends for ship-timber upon the Birman empire. Most other descriptions of timber are also found in this empire; on the banks of the river Irravaddy a large log of fir was seen by Doctor Buchanan, one of the gentlemen belonging to the embassy. He was informed by the natives that it had been washed down by the torrents from a mountainous part of the country northward of the capital, where it grows in abundance and of considerable magnitude. It is called *tanys*. The turpentine is extracted from it, and turned to use, but the wood is considered as of little value on account of its softness. It will probably hereafter be brought to market in India, as top-gallant-masts and yards made of teek are thought too heavy, and European and American spars are often bought for these purposes at a very exorbitant price.

106  
Teek wood.

On account of the depopulation of various parts of the country by war, the wild animals have multiplied to a great extent. The most troublesome of these are tigers, which infest all the forests, and what are called *jungles* or woody thickets near the banks of torrents, so as to render it dangerous to enter them: wild elephants

107  
Animals.



Asia.

also abound and occupy the forests in great numbers. These powerful animals, allured by the early crops of rice and sugar-cane, make predatory excursions in large troops, and do much mischief, destroying more than they devour. The peasantry have often to lament the destruction of their most exposed plantations in consequence of these inroads. Herds of deer are frequently seen, and horses and cattle are reared in abundance by the people. They have also large herds of buffaloes, which have a powerful antipathy to a red or scarlet colour, and are so extremely fierce, that the tigers dare not attack them.

The two peninsulas of India are the native countries of the peacock, and also of our barn-door fowl; the latter abound in the jungles or thickets, and are well known to sportsmen in India. They differ little from the barn-door fowl in Europe, except that the wild fort are all similar in colour; a dark red, with black breast and legs: their flesh is very delicate.

108  
Minerals.

The Birman empire abounds in minerals. Near the frontiers of China they have mines of gold and silver; there are also mines of gold, silver, rubies, and sapphires, at present open on a mountain near the river Keenduem; but the most valuable, and those which produce the finest jewels, are in the vicinity of the capital. Precious stones are found in several other parts of the empire. The inferior minerals, such as contain iron, tin, lead, antimony, arsenic, sulphur, &c. are met with in great abundance; amber, of a consistence unusually pure and pellucid, is dug up in large quantities near the principal river. Gold likewise is discovered in the sandy beds of streams which descend from the mountains; diamonds and emeralds are not found in any part of the Birman empire, but it affords amethysts, garnets, very beautiful chrysolites, jasper, loadstone, and marble. This last is equal in quality to the finest marble of Italy, and admits of a polish that renders it almost transparent, but it is not allowed to be sold in its rude state or in blocks, being held sacred, and used only for the purpose of manufacturing images of Gaudma.

109  
Petroleum  
wells.

They have also wells of petroleum, which were visited by the British envoy, who describes his journey to them in the following terms: "Doctor Buchanan partook of an early dinner with me, and when the sun had descended so low as to be no longer inconvenient, we mounted our horses to visit the celebrated wells that produce the oil, an article of universal use throughout the Birman empire. The face of the country was cheerless and sterile; the road, which wound among rocky eminences, was barely wide enough to admit the passage of a single cart; and in many places the track in which the wheels must run, was a foot and a half lower on one side than the other: there were several of these lanes, some more circuitous than others; according to the situation of the small hills among which they led: vehicles going and returning were thus enabled to pursue different routes, except at particular places, where the nature of the ground would only admit of one road; when a cart came to the entrance of such a defile, the driver hallooed out to stop any that might interfere with him from the opposite side, no part being sufficiently wide for two carts to pass. The hills, or rather hillecks, were covered with gravel, and yielded no other vegetation than a few stunted bushes. The wheels had worn ruts deep into the rock, which seemed to be rather a

Asia.

mass of concreted gravel than hard stone, and many pieces of petrified wood lay strewed about. It is remarkable, that wherever these petrifications were found, the soil was unproductive and the ground destitute of verdure. The evening being far advanced, we met but few carts; those which we did observe were drawn each by a pair of oxen, and of a length disproportionate to the breadth, to allow space for the earthen pots that contained the oil. It was a matter of surprise to us how they could convey such brittle ware, with any degree of safety, over so rugged a road; each pot was packed in a separate basket, and laid on straw; notwithstanding which precaution, the ground all the way was strewed with the fragments of the vessels and wet with oil; for no care can prevent the fracture of some in every journey. As we approached the pits, which were more distant than we had imagined, the country became less uneven, and the soil produced herbage; it was nearly dark when we reached them, and the labourers had retired from work. There seemed to be a great many pits within a small compass: walking to the nearest, we found the aperture about four feet square, and the sides, as far as we could see down, were lined with timber; the oil is drawn up in an iron pot, fastened to a rope passed over a wooden cylinder, which revolves on an axis supported by two upright posts; when the pot is filled, two men take the rope by the end, and run down a declivity which is cut in the ground to a distance equivalent to the depth of the well; thus, when they reach the end of their track, the pot is raised to its proper elevation; the contents, water and oil together, are then discharged into a cistern, and the water is afterwards drawn off through a hole at the bottom. Our guide, an active intelligent fellow, went to the neighbouring house and procured a well-rope, by means of which we were enabled to measure the depth, and ascertained it to be 37 fathoms, but of the quantity of oil at the bottom we could not judge; the owner of the rope, who followed our guide, affirmed, that when a pit yielded as much as came up to the waist of a man, it was deemed tolerably productive; if it reached to his neck it was abundant; but that which rose no higher than the knee was accounted indifferent: when a well is exhausted, they restore the spring by cutting deeper into the rock, which is extremely hard in these places where the oil is produced. Government farm out the ground that supplies this useful commodity; and it is again let to adventurers, who dig wells at their own hazard, by which they sometimes gain, and often lose, as the labour and expense of digging are considerable. The oil is sold on the spot for a mere trifle; I think two or three hundred pots for a tachal or half-a-crown. The principal charge is incurred by the transportation and purchase of vessels. We had but half gratified our curiosity when it grew dark, and our guide urged us not to remain any longer, as the road was said to be infested with tigers that prowled at night among the rocky uninhabited ways through which we had to pass; we followed his advice, and returned, with greater risk, as I thought, of breaking our necks from the badness of the road than of being devoured by wild beasts. As ten o'clock we reached our boats without any misadventure."

The Birmans are very far from being in a state of intellectual darkness. Though they have not explored the  
110  
Character of the Birmans.



Asia. the depths of science, nor reached to excellence in the finer arts, they yet have an undeniable claim to the character of a civilized and well-instructed people. Their police is better regulated than in most European countries. In their natural dispositions they are high spirited, active, impatient, and irascible; but at the same time they are friendly and hospitable to strangers, and their manners are rather expressive of manly candour than of courteous dissimulation: A knowledge of letters is so widely diffused that there are no mechanics, few of the peasantry, or even the common watermen, usually the most illiterate class, who cannot read and write in the vulgar tongue; few, however, are versed in their books of science, which containing many Sanscrit terms, and being often written in the Pali text, are (like the Hindoo Shasters) above the comprehension of the multitude. The Birmans are not shackled by any prejudices of cast like the Hindoos, restricted to hereditary occupations, or forbidden to participate with strangers in every kind of social connexion. Hence it is probable, that if a respite is allowed them from foreign wars, their progress in improvement will be rapid. They are a very sober people, and though the activity of their character renders them fond of amusements, yet multitudes of them are seen assembled together upon their public festivals, without one act of intemperance being committed or a single instance of intoxication being perceived.

III  
Women.

The laws or customs of the Birmans with regard to women contain a strange mixture of reason and of absurdity; on the one hand the women are allowed entire freedom, and are considered as of much importance, while in other respects they are treated with great contempt. The Birmans encourage all strangers to marry Birman wives; even slaves taken in war who comply with this invitation, acquire considerable privileges. This custom, in which these people agree with the wisest and best governed nations of antiquity, is singular among the civilized countries of the east, and peculiarly remarkable in a people surrounded by kingdoms where women are kept inviolably sacred from the sight and converse of strangers, and where the exclusive system of casts or tribes admits neither of civil nor religious profelytism. Even the public prostitutes in China are prohibited from having intercourse with strangers. The Hindoo women of rank are no less inaccessible, and admission into a respectable cast is not to be obtained by money. The Birmans, on the contrary, sensible that the strength of an empire consists in its population, admit to their society men of all religions and complexions, Pagans or Jews, Mahometans or Christians, the disciples of Confucius or the worshippers of fire; the children of whom born of a Birman woman, are understood to be natural born subjects of the state, and are entitled to the same protection and privileges as if they had sprung from a line of Birman ancestry. Accordingly the jealousy which prompts the eastern nations to immerse their women within the walls of a haram, and to surround them with guards, seems scarcely to have any influence over the minds of this extraordinary people. Birman wives and daughters are not concealed from the sight of men, and are suffered to have as free intercourse with the world as the rules of European society admit. A man can only marry one wife; but it appears that their men of rank

take a second in the character of a concubine, who is by law, however, obliged to attend and obey the lawful wife as a servant. Women are accounted of such political importance, that great care is taken to prevent their being conveyed out of the country. The law in this point is very rigorous; every ship, before she receives her clearance, is diligently searched by the officers of the customhouse; even if their vigilance were to be eluded, the woman would be quickly missed, and it would soon be discovered in what vessel she had gone, nor could that ship ever return to a Birman port but under penalty of confiscation of the property, and the infliction of a heavy fine and imprisonment on the master: female children also, born of a Birman mother, are not suffered to be taken away. Men are permitted to emigrate; but they think that the expatriation of women would impoverish the state by diminishing the sources of its population.

On the other hand, women are treated in many respects as not belonging to the same scale of creation as men; the evidence of a woman is not received as of equal weight with that of a man, and a woman is not suffered to ascend the steps of a court of justice, but is obliged to deliver her testimony on the outside of the roof. The lower class of Birmans make no scruple of selling their daughters, or even their wives, to strangers who come to reside among them for a short time, and none of the parties are understood to be dishonoured by the connexion. When the master of a family incurs debts which he cannot pay, his wife and daughters may be sold as slaves for payment of his creditors. Near the great towns is a place, called *tackally*, in the suburbs assigned to common prostitutes, who are under the controul of a public superintendent. He frequently purchases the unfortunate women, who are sold for the payment of the debts of their relations, and makes gain by the prostitution of them.

Still, however, domestic society is on a very different footing among the Birmans from that in which it is placed among the other eastern nations, and the women take a much more active share in the superintendance of all affairs, as appears from the following anecdote, which fell under the observation of the British embassy, in the neighbourhood of whose residence a large ship was building for the governor of Maindu. "If this ship was not composed of prime materials, the building at least was well attended to; every morning the governor's wife crossed the river in her husband's barge, attended by two or three female servants; after landing, she commonly took her seat on one of the timbers in the yard, and overlooked the workmen for some hours; after which she returned home, and seldom missed coming back in the evening to see that the days task had been completed. The ship on which the ship was built happened to be contiguous to our first habitation, a circumstance that caused us to remark her constant visits; curiosity, however, did not prompt her, or any of her attendants, to come within our precincts, whilst decorum deterred us from making advances towards an acquaintance. Her husband never accompanied her, and she did not seem to require his aid. Women in the Birman country are not only good housewives, but likewise manage the more important mercantile concerns of their husbands, and attend to their interests in all out-door transactions: they are industri-



ous to the greatest degree, and are said to be good mothers, and seldom from inclination unfaithful wives." Asia.

112  
Marriages.

Marriages among the Birmans are not contracted till the parties attain the age of puberty. The contract is purely civil, and the priests have no interference in it. When a young man is desirous to marry a girl, his mother, or nearest female relation, first makes the proposal in private. If the suit be successful, a party of his friends proceed to the house of the parents of the maiden, and adjust the dowry. On the morning of the bridal-day the bridegroom sends to the bride three loongees, lower garments; three tubbecks, or sashes; and three pieces of white muslin; also such jewels, ear-rings, and bracelets, as his circumstances admit of. A feast is prepared by the bride's parents, and formal writings are executed. The new-married couple eat out of the same dish. The bridegroom presents the bride with some pickled tea, which she accepts, and returns the compliment, which terminates the ceremony.

113  
Politeness.

The Birmans are extremely polite, but at the same time unceremonious in their manners. Their form of demonstrating respect consists of assuming a sitting or low posture. Accordingly, when persons of rank visited the East India Company's ambassador, they no sooner came into the apartment than they instantly took to themselves chairs and sat down, while their attendants assumed a lower posture, by resting upon their hams in the eastern manner. Though the embassy was at first received with considerable distrust by the government, yet the members of which it was composed were treated with the utmost politeness and personal respect, both by persons in office and by all ranks of people. The curiosity with which they were visited when at Pegu is thus described:—"Our hall in the morning was generally crowded, as every person of distinction in Pegu paid us the compliment of a visit, except the maywoon, who, within the precincts of his own government, where he represents the king, never returns a visit. Numbers both of men and women, prompted by harmless curiosity, surrounded the paling of the enclosure from morning till night: Those of a better class usually came in, some previously asking permission; but many entered without it. Perfectly free from restraint among themselves, the Birmans scruple not to go into your house without ceremony, although you are an utter stranger. To do them justice, however, they are not at all displeased at your taking the same freedom with them. This intrusion is confined wholly to your public room: they do not attempt to open a door; and where a curtain dropped denotes privacy, they never offer to violate the barrier. On entering the room, they immediately descend into the posture of respect. Of all our customs, none seemed to surprise them more than the preparations for dining: the variety of utensils, and our manner of sitting at a table, excited their wonder. They never took any greater liberty than merely to come into the room, and sit down on the floor: they meddled with nothing, and asked for nothing; and when desired to go away, always obeyed with cheerfulness. Had untold gold been placed before them, I am confident not a piece would have been purloined." The behaviour of these people at another of their towns is thus mentioned: "The news of the mission had reached the place before we arrived, and excited a general curio-

sity to see the boomien of the colars, or the general of the strangers, as they were pleased to denominate me. Not only the better class of the inhabitants of Meeaday came to visit us, but likewise people of condition from all the towns and villages twenty miles round: I have sometimes received eight or ten different companies in a morning. When a party wished to be introduced, a message was sent to ask permission; which being obtained, they entered the room in a crouching position, and sat down on their heels, men and women alike. They always brought a gift of something, whatever they supposed might be acceptable; tobacco, onions, fine rice, &c. No company presented themselves empty handed: it would not have been respectful. Of course, their offerings drew from me a suitable return; such as, fillets of Indian muslin to the women, and a Cossimbuzar silk handkerchief to the men. Several parties of women came unaccompanied by their husbands, or any of their male friends; and, according to the notions entertained by them, there was nothing indecorous in it: They were unconscious of any thing but an innocent desire to gratify curiosity and manifest respect. Women of a better class were always accompanied by a train of female attendants; and, like the sex everywhere, were more lively, good humoured, and inquisitive than the men."

Among the public amusements of this people are mentioned, boxing matches, fire-works, processions, exhibitions of dancing; as also plays and puppet shows. Persons of rank among them are fond of chess. This game is held in high estimation among the superior ranks: the board they use is exactly similar to ours, containing 64 squares, and their number of troops the same, 16 on each side; but the names, the power, and disposal of them, differ essentially. The king and his minister (a queen is never introduced by the orientals) are mounted on elephants; these are defended by two castles or yettay, two knights on horseback, nine, two officers on foot, one called *Meem*, the other *Chekey*, and eight maundelay or foot soldiers. The forces of each party are arranged on three lines, by which eight squares remain unoccupied: none of the pieces possess equal force with our queen; and this restricted operation renders the Birman mode of playing more complex and difficult than ours. The Birmans affirm that it is a game of high antiquity, and that it is acknowledged and authorized by their sacred writings, although every play of chance is prohibited. This testimony confirms the opinion of the late Sir William Jones, that chess was invented in India, and is not, as generally imagined, of Persian origin. The Birmans call it *chedreen*, a word that bears some resemblance to the name which is given to the game in most other parts of the world.

One of their amusements deserves attention, chiefly on account of its singularity and the good temper which it indicates. It is thus described by Mr Symes, who held the place of ambassador:—"On the 12th of April, the last day of the Birman year, we were invited by the maywoon to bear a part ourselves in a sport that is universally practised throughout the Birman dominions on the concluding day of their annual cycle. To wash away the impurities of the past, and commence the new year free from stain, women on this day are accustomed to throw water on every man they meet,"

Asia.

114  
Amusements.

115  
Chess.

116  
Throwing water on the last day of the year.



<sup>Aff.</sup> meet, which the men have the privilege of retorting. This licence gives rise to a great deal of harmless merriment, particularly amongst the young women, who, armed with great syringes and flaggons, endeavour to wet every man that goes along the street, and in their turn receive a wetting with perfect good humour. Nor is the smallest indecency ever manifested in this or in any other of their sports. Dirty water is never cast. A man is not allowed to lay hold of a woman, but may fling as much water over her as he pleases, provided she has been the aggressor; but if a woman warns a man that she does not mean to join in the diversion, it is considered as an avowal of pregnancy, and she passes without molestation.

“About an hour before sunset we went to the may-woon’s, and found that his lady had provided plentifully to give us a wet reception. In the hall were placed three large china jars, full of water, with bowls and ladles to fling it. Each of us, on entering, had a bottle of rose water presented to him, a little of which we in turn poured into the palm of the maywoon’s hand, who sprinkled it over his own vest of fine flowered muslin. The lady then made her appearance at the door, and gave us to understand that she did not mean to join in the sport herself, but made her eldest daughter, a pretty child in the nurse’s arms, pour from a golden cup some rose-water, mixed with sandal wood, first over her father, and then over each of the English gentlemen: this was a signal for the sport to begin. We were prepared, being dressed in linen waistcoats. From ten to twenty women, young and middle aged, rushed into the hall from the inner apartments, who surrounded and deluged without mercy four men, ill able to maintain so unequal a contest. The maywoon was soon driven from the field; but Mr Wood having got possession of one of the jars, we were enabled to preserve our ground till the water was exhausted: it seemed to afford them great diversion, especially if we appeared at all distressed by the quantity of water flung in our faces. All parties being tired, and completely drenched, we went home to change our clothes, and in the way met many damsels who would willingly have renewed the sport; they, however, were afraid to begin without receiving encouragement from us, not knowing how it might be taken by strangers; but they assailed Baba-theem and his Birmat attendants with little ceremony. No inconvenient consequences were to be apprehended from the wetting; the weather was favourable, and we ran no risk of taking cold. Having put on dry clothes, we returned to the maywoon’s, and were entertained with a dance and puppet show that lasted till eleven.

<sup>117</sup>  
Dress. The court dress of the Birman nobles is represented as very becoming. It consists of a long robe of flowered satin or of velvet, reaching to the ankles, with an open collar and loose sleeves. Over this there is a scarf, or flowing mantle, that hangs from the shoulders, and on their heads they wear high caps of velvet, either plain, or of silk, embroidered with flowers of gold, according to the rank of the owner. Ear-rings are worn by the men; and some persons of condition use tubes of gold about three inches long, and as thick as a large quill, which expands at one end like the mouth of a speaking trumpet. Others wear a heavy mass of gold, beaten into a plate, and rolled up. This lump

of metal forms a large orifice in the lobe of the ear, and drags it down by the weight to the extent sometimes of two inches. Men of rank wear in common dress a tight coat, with long sleeves, made of muslin, or of extremely fine nankeen, which is manufactured in the country; also a silk wrapper that encircles the waist. The working class are usually naked to the middle, but in the cold season, a mantle or vest of European broad cloth is highly prized. The women tie their hair in a bunch at the top of the head. They bind it round with a fillet, the ornaments of which express the rank of the wearer. A short shift, reaching to the pit of the stomach, and drawn tight by strings, supports the breasts. Over that is a loose jacket, with close sleeves. Round their waist they roll a long piece of silk or cloth, which reaching to their feet, and sometimes trailing on the ground, encircles them twice, and is then tucked in. When women of condition go abroad, they wear a silk sash resembling a long shawl, which crosses their bosom, and is cast over the shoulders, so as to flow gracefully on each side. The lowest class of females often wear only a single garment in the form of a sheet, which, wrapped round the body, and tucked under the arm, crosses their breasts, which it scarcely conceals, and descends to their ankles. Thus when they walk, the lower part of the cloth, where it overlaps, is opened by the protrusion of the leg, and displays to a side view as high as the middle of the thigh. Indeed, every woman when walking must shew a great part of her leg, as the lower part of their dress is never closed by a seam. Women in full dress stain the palms of their hands and their nails a red colour, by means of a vegetable juice, and strew on their bosoms powder of sandal wood, or of a bark called by them *sunneka*, with which some rub their faces. Both men and women tinge the edges of their eyelids and their teeth with black.

The Birmans in their features have a nearer resemblance to the Chinese than to the natives of Hindoo-<sup>118</sup> the people. The women, especially, in the northern parts of the empire are fairer than the Hindoo females, but not so delicately formed. They are inclined to corpulence, and their hair is black, long, and coarse. The men are athletic and active, but not tall. They have a very youthful appearance, from the custom of plucking out the hair of their beards instead of shaving. Girls are taught at an early age to turn their arms in such a manner as to make them appear distorted. When the arm is extended, the elbow is inverted, the inside of the joint being protruded, and the external part bending inwards.

<sup>119</sup> With regard to religion, the Birmans are a sort of Religion. Hindoos; not votaries of Brahma, but sectaries of Booth; which latter is admitted by Hindoos of all descriptions to be the ninth avatar or descent of the deity in his capacity of preserver. He reformed the doctrines contained in the vedas, and severely censured the sacrifice of cattle, or depriving any being of life; He is called the author of happiness: his place of residence was discovered at Gaya in Bengal, by the illustrious Amara, renowned amongst men, who caused an image of the supreme Booth to be made, and he worshipped it: Reverence be unto thee in the form of Booth; reverence be unto thee, lord of the earth; reverence be unto thee an incarnation of the deity,  
and



A. S. I.

and eternal one; reverence be unto thee, O God, in the form of mercy!"

Gotma, or Gantum, according to the Hindoos of India, or Gaudma, among the inhabitants of the more eastern parts, is said to have been a philosopher, and is by the Birman believed to have flourished above 2300 years ago. He taught in the Indian schools the heterodox religion and philosophy of Boodh. The image that represents Boodh is called *Gaudma*, or *Gantum*, which is now a commonly received appellation of Boodh himself: This image is the primary object of worship in all the countries situated between Bengal and China. The sectaries of Boodh contend with those of Brahma for the honour of antiquity, and are certainly far more numerous. The Cingalese, that is, the original inhabitants of Ceylon, are Boodhists of the purest source; and the Birman acknowledge to have originally received their religion from that island. It was brought, say the rhaahans, first from Zehoo (Ceylon) to Aracan, and thence was introduced into Ava, and probably into China; for the Birman asert with confidence that the Chinese are Boodhists.

This is a curious subject of investigation; and the concurrent testimony of circumstances, added to the opinions of the most intelligent writers, seem to leave little doubt of the fact. It cannot, however, be demonstrated beyond the possibility of dispute, till we shall have acquired a more perfect knowledge of Chinese letters, and a readier access to their repositories of learning. Little can at present be added to the lights cast on the subject by the late Sir William Jones, in his discourse delivered to the Asiatic society on the Chinese. That great man has expressed his conviction in positive terms, that "Boodh was unquestionably the Fo of China," and that he was also the god of Japan, and the Woden of the Goths; an opinion which corresponds with, and is perhaps grafted on, the information of the learned and laborious Kæmpfer, corroborated afterwards by his own researches. On whatever grounds the latter inference rests, it will not tend to weaken the belief of his first position, when I observe that the Chinese deputies, on the occasion of our introduction to the seradan, or high priest of the Birman empire, prostrated themselves before him, and afterwards adored an image of Gaudma with more religious fervour than mere politeness or acquiescence in the customs of another nation would have excited. The bonzes also of China, like the rhaahans of Ava, wear yellow, as the sacerdotal colour; and in many of their customs and ceremonies there may be traced a striking similitude.

120

Laws.

The laws of the Birman are connected with their religion, being contained in what they call the *Derma Saib*, or *Sastra*, which is one of many commentaries on the writings of Menu, to whom, according to the Hindoos, the sacred principles of their law were revealed by divine authority.

The *Sastra* provides specifically for almost every case of crime that can be committed, and adds a copious chapter of precedents and decisions to guide the inexperienced. The Birman agree with the Hindoos in one benevolent doctrine, thefulness of depriving any creature of life to satisfy a carnivorous appetite; but the Birman do not carry this branch of their religion to any scrupulous length, like the timid and supersti-

A. S. I.

tious natives of the western peninsula. Merely to eat flesh is not deemed a crime by the Birman, but he who eats it is not exempt from sin, unless the creature died a natural death, or was slain by accident, or by other hands. But in every thing that concerns religion the Birman are abundantly liberal. The prohibition to kill animals as objects of food is nowhere very scrupulously observed, except by the rhaahans or priests. In times of danger, or in consequence of superflition, the king and his viceroys sometimes issue proclamations, enjoining obedience to the sacred law; but these produce little other effect than to cause the animals for a short time to be killed with more secrecy than usual; and wherever foreigners are in question, both the government and the people are abundantly tolerant. The maynoon of Pegu, who sent to the embassy large supplies of fruit, rice, oil, tamarinds, and spices, did not indeed offer any butcher's meat for the use of the table; but they were allowed to purchase and kill whatever they wanted, such as, fowls, kid, and venison. When they had advanced farther into the country, a private intimation was given to the ambassador, that there would be no crime if a servant of his should kill a fat bullock when he met one; that it would be ascribed to accident, and reparation might be made to the owner, who would think himself amply recompensed for his loss by two tachals, about six fillings; and the beast being dead, there could be no sin in eating it, but that a public function could not previously be given to slaughter one. The Birman never quarrel with a stranger on account of his religion. Their principal sea-port, Rengoon, has long been the asylum of insolvent debtors from the different settlements of India. It is crowded with foreigners of desperate fortunes, who find from the Birman a friendly reception, and carry on a petty trade, which affords a decent subsistence to those who act with prudence. Here are to be found fugitives from all countries of the east, and of all complexions: Malabars, Moguls, Persians, Parsecs, Armenians, Portuguese, French, and English, all mingle here, and are engaged in various branches of commerce. The members of this discordant multitude are not only permitted to reside under the protection of government, but likewise enjoy the most liberal toleration in matters of religion: They celebrate their several rites and festivals, totally disregarded by the Birman, who have no inclination to make proselytes. In the same street may be heard the solemn voice of the muezzin, calling pious Muslimes to early prayers, and the bell of the Portuguese chapel tinkling a summons to Romish Christians. Processions meet and pass each other without giving or receiving cause of offence. The Birman never trouble themselves about the religious opinions of any sect, nor disturb their ritual ceremonies, provided they do not break the peace, or meddle with their own divinity, Gaudma; but if any person commit an outrage, which the muslimes in their zeal for the true faith will sometimes do, the offender is sure to be put into the stocks; and if that does not calm his turbulent enthusiasm, they bastinado him into tranquillity.

121  
Religious  
toleration.

The rhaahans, or priests, are a kind of monks who Rhaahans live in cloisters, profess celibacy, and abstain from priests. every sensual indulgence. The prescribed punishment for a rhaahan detected in an act of incontinence, is expulsion

122



Asia. expulsion and public disgrace. The delinquent is feated on an ass, and his face daubed with black paint, interspersed with spots of white. He is thus led through the streets, with a drum beating before him, and afterwards turned out of the city. The juniors only go abroad by the permission of the superior or prior of the convent. They are dressed in a long loose cloak, and yellow is the only colour worn by them. The rhaahaans never dress their own victuals, holding it an abuse of time to perform any of the common functions of life, which, so long as they occupy, must divert them from the abstract contemplation of the divine essence. They receive the contributions of the laity ready cooked, and prefer cold food to hot. At the dawn of the morning they begin to perambulate the town, to collect supplies for the day: Each convent sends forth a certain number of its members, who walk at a quick pace through the streets, supporting with the right arm a blue lackered box, in which the donations are deposited; these usually consist of boiled rice mixed with oil, dried and pickled fish, sweetmeats, fruit, &c. During their walk they never cast their eyes to the right nor to the left, but keep them fixed on the ground; they do not stop to solicit, and seldom even look at the donors, who appear more desirous to bestow than the others to receive. The rhaahaans eat but once a-day, at the hour of noon. A much larger quantity of provisions being commonly procured than suffices for the members of the convent, the surplus is disposed of as charitably as it was given, to the needy stranger, or the poor scholars who daily attend them to be instructed in letters, and taught their moral and religious duties.

123  
Kiooms, or  
monasteries.

In their choice of a residence, the rhaahaans commonly select the most retired spots they can find, where shady trees, particularly the tamarind and banyan, protect them from the noonday sun. Their monasteries are different from common houses; they are made entirely of wood; the roof is composed of different stages supported by strong pillars; the inside comprehends one large hall; the whole house is open at the sides, and no private apartments are allowed: Publicity is the prevailing system of Birman conduct, and they admit of no secrets either in church or state. All kiooms or monasteries, whether in town or country, are seminaries for the education of youth, in which boys of a certain age are taught their letters, and instructed in moral and religious duties. To these schools the neighbouring villagers send their children, where they are educated *gratis*, no distinction being made between the son of the peasant, and of him who wears the taloe or string of nobility. A piece of ground contiguous to the grove is enclosed for a garden, where they sow vegetables and plant fruit trees: the Indian sweet potato and the plantain, being the most nutritious, are principally cultivated. The charity of the country people supplies them abundantly with rice, and the few necessaries which their narrow wants require. Abstracted from all worldly considerations, they do not occupy themselves in the common concerns of life: they never buy, sell, or accept of money. Formerly there were nunneries of virgin priestesses, who, like the rhaahaans, wore yellow garments, cut off their hair, and devoted themselves to chastity and religion; but the Birman government has

long since abolished these societies, and refuses to allow women, under pretence of religion, to be withdrawn from the performance of the important duty of contributing to support and increase the population of the state. Asia.

The Birmans are extremely magnificent in the structure of their temples; that of Shoemadoo, at the ancient city of Pegu, is most remarkable. We shall therefore give the description of it at full length: "The object in Pegu that most attracts and most merits notice, is the noble edifice of Shoemadoo or the golden supreme. This extraordinary pile of buildings is erected on a double terrace, one raised upon another. The lower and greater terrace is about 10 feet above the natural level of the ground, forming an exact parallelogram: the upper and lesser terrace is similar in shape, and rises about 20 feet above the lower terrace, or 30 above the level of the country. I judged a side of the lower terrace to be 1391 feet; of the upper 684. The walls that sustained the sides of the terrace, both upper and lower, are in a ruinous state; they were formerly covered with plaster wrought into various figures. The area of the lower is strewn with the fragments of small decayed buildings; but the upper is kept free from filth, and is in tolerably good order. There is reason to conclude, that this building and the fortrefs are coeval, as the earth of which the terraces are composed, appears to have been taken from the ditch; there being no other excavation in the city, or in its neighbourhood, that could have afforded a tenth part of the quantity.

124

Temples.

125

Temple of  
Shoemadoo.

"The terraces are ascended by flights of stone steps, which are now broken and neglected. On each side are dwellings of the rhaahaans raised on timbers four or five feet from the ground; these houses consist only of a large wall; the wooden pillars that support them are turned with neatness; the roofs are covered with tiles, and the sides are made of boards; and there are a number of bare benches in every house, on which the rhaahaans sleep; but we saw no other furniture.

"Shoemadoo is a pyramidal building composed of brick and mortar, without excavation or aperture of any sort; octagonal at the base, and spiral at top; each side of the base measures 162 feet; this immense breadth diminishes abruptly, and a similar building has not unaptly been compared in shape to a large speaking trumpet.

"Six feet from the ground there is a wide projection that surrounds the base, on the plane of which are 57 small spires of equal size, and equidistant; one of them measured 27 feet in height, and 40 in circumference at the bottom. On a higher ledge there is another row, consisting of 53 spires of similar shape and measurement.

"A great variety of mouldings encircle the building, and ornaments somewhat resembling the fleur-de-lys surround the lower part of the spire; circular mouldings likewise girt it to a considerable height, above which there are ornaments in stucco not unlike the leaves of a Corinthian capital: And the whole is crowned by a tee or umbrella, of open iron-work, from which rises a rod with a gilded pennant.

"The tee or umbrella is to be seen on every sacred building that is of a spiral form; the raising and consecration of this last and indispensable appendage is an

act.



Afa.

act of high religious solemnity, and a season of festivity and relaxation. The present king bestowed the tee that covers Shoemadoo. It was made at the capital; and many of the principal nobility came down from Ummerapooora to be present at the ceremony of its elevation.

"The circumference of the tee is 56 feet; it rests on an iron axis fixed in the building, and is farther secured by large chains strongly rivetted to the spire. Round the lower rim of the tee are appended a number of bells, which, agitated by the wind, make a continual jingling.

"The tee is gilt, and it is said to be the intention of the king to gild the whole of the spire. All the lesser pagodas are ornamented with proportionable umbrellas of similar workmanship, which are likewise encircled by small bells.

"The extreme height of the edifice, from the level of the country, is 361 feet, and above the interior terrace 331 feet.

"On the south-east angle of the upper terrace there are two handsome saloons or kioums lately erected, the roofs composed of different stages, supported by pillars; we judged the length of each to be about 60 feet, and the breadth 30; the ceiling of one is already embellished with gold leaf, and the pillars are lackered; the decoration of the other is not yet completed. They are made entirely of wood; the carving on the outside is laborious and minute; we saw several unfinished figures of animals and men in grotesque attitudes, which were designed as ornaments for different parts of the building. Some images of Gaudma, the supreme object of Birman adoration, lay scattered around.

"At each angle of the interior and higher terrace there is a temple 67 feet high, resembling in miniature the great temple; in front of that, in the southern corner, are four gigantic representations in masonry of Palloo or the evil genius, half beast half human, seated on their hams, each with a large club on the right shoulder. The Pundoo who accompanied me, said that they resembled the Rahufs of the Hindoos. These are guardians of the temple.

Nearly in the centre of the east face of the area are two human figures in stucco beneath a gilded umbrella; one standing represents a man with a book before him, and a pen in his hand; he is called *Thasamee*, the recorder of mortal merits and mortal misdeeds; the other, a female figure kneeling, is Maha Sumdera, the protectress of the universe, so long as the universe is doomed to last; but when the time of general dissolution arrives, by her hand the world is to be overwhelmed and everlastingly destroyed.

"A small brick building, near the north-east angle, contains an upright marble slab, four feet high, and three feet wide: there is a long legible inscription on it. I was told it was an account of the donations of pilgrims of only a recent date.

"Along the whole extent of the north face of the upper terrace there is a wooden shed, for the convenience of devotees who come from a distant part of the country. On the north side of the temple are three large bells of good workmanship, suspended nigh the ground between pillars; several deers horns lie strewned around; those who come to pay their devotions

Afa.

first, take up one of the horns and strike the bell three times, giving an alternate stroke to the ground: this act I was told is to announce to the spirit of Gaudma, the approach of a suppliant. There are several low benches near the foot of the temple on which the person who comes to pray places his offering, commonly consisting of boiled rice, a plate of sweetmeats, or cocoa nut fried in oil; when it is given, the devotee cares not what becomes of it; the crows and wild dogs often devour it in presence of the donor, who never attempts to disturb the animals. I saw several plates of victuals disposed of in this manner, and understood it to be the case with all that was brought.

"There are many small temples on the areas of both terraces, which are neglected and suffered to fall into decay. Numberless images of Gaudma lie indiscriminately scattered. A pious Birman who purchases an idol, first procures the ceremony of consecration to be performed by the rhahaans; he then takes his purchase to whatever sacred building is most convenient, and there places it within the shelter of a kioum, or in the open ground before the temple; nor does he ever again seem to have any anxiety about its preservation, but leaves the divinity to shift for itself. Some of those idols are made of marble that is found in the neighbourhood of the capital of the Birman dominions, many are formed of wood and gilded, and a few are of silver. The latter, however, are not usually exposed and neglected like the others. Silver and gold are rarely used, except in the composition of household gods.

"On both the terraces are a number of white cylindrical flags raised on bamboo poles; these flags are peculiar to the rhahaans, and are considered as emblematic of purity and of their sacred functions. On the top of the staff there is a henza or goofe, the symbol both of the Birman and Pegu nations.

"From the upper projection that surrounds the base of Shoemadoo, the prospect of the circumjacent country is extensive and picturesque; but it is a prospect of nature in her rudest state: there are few inhabitants, and scarcely any cultivation. The hills of Martaban rise to the eastward, and the Sitang river, winding along the plains, gives an interrupted view of its waters. To the northward about 40 miles are the Galadzet hills, whence the Pegu river takes its rise; hills remarkable only for the noisome effects of their atmosphere. In every other direction the eye looks over a boundless plain, chequered by a wild intermixture of wood and water."

The temple of Shoemadoo appears to be the largest in the Birman dominions. At the same time, they have many others formed upon a similar plan and of great extent. Of one of these we shall take notice, on account of the coincidence between its name, and the name of a Pagan temple mentioned in the sacred Scriptures. It is to be observed, that in the Birman tongue, the word *shoe*, signifies *golden*; and the name of the temple to which we allude, is called *Shoedagon*, or *the temple of the golden Dagon*. It is thus described: "The temple of Shoedagon or Dagonng, about two miles and a half north of Rangoon, is a very grand building, although not so high by 25 or 30 feet as that of Shoemadoo at Pegu. It is much more ornamented; the terrace on which it stands is raised on a rocky eminence, considerably higher than the circumjacent



<sup>A f. a.</sup> jacent country. It is ascended by above 100 stone steps that have been suffered to fall into decay. The situation renders Shoedagon a conspicuous object at the distance of many miles. The tee and the whole of the spire are richly gilded, which, when the sun shines, exhibit a singularly splendid appearance.

"The small auxiliary buildings are yet more numerous than those that surround the base of the Pegu temple. Perceiving that several of these were in a ruinous state, whilst the foundations of others were just laid, and some half finished, I asked, why they did not repair the damages of the old before they erected new ones, and was told, that to mend a decayed prau or temple, though an act of piety, was not so meritorious as to erect a new one; that sometimes the old ones were repaired by those who were unwilling or unable to be at the expence of a complete building; but this entirely depended on the means or inclination of the donor.

"The borders of the terrace on which the temple is raised are planted with shady trees in regular rows: From this eminence there is a beautiful and extensive prospect; the Pegu and Rangoon rivers are seen winding through a level woody country, and the temple of Syriam, little inferior to those that have been described, stands near the junction of the streams. The rainy monsoon had now set in, and inundations were formed in several places. It would have been a more pleasing, though perhaps less picturesque scene, had the plains been cleared and the fields laid out for cultivation: we could observe few marks of improvement; woods, lakes, and rivers, presented themselves on every side."

<sup>126</sup>  
Private  
buildings.

But although the Birmans display sufficient magnificence in their temples and public buildings, their private houses are constructed of very simple and cheap materials. Their king has even prohibited brick or stone to be used in the construction of any private house, from an apprehension, it is said, that if people were allowed to erect brick houses, they might erect brick fortifications to the danger of the state. It is not improbable, however, that the prohibition is owing to another cause. In the hot climates, where the soil is fertile, if the population happen to be defective, it is extremely difficult to prevent the whole country from being overrun with forests, which is at present in a great degree the case in the Birman dominions. One of the easiest modes of subduing these forests, consists of adopting the measure now mentioned, of prohibiting the use of brick or stone for private buildings. In other respects, however, the houses are built with sufficient attention to conveniency, and are all raised from the ground, either on wooden posts or bamboos, according to the size of the building; so that the lowest floor is above the ground. The monasteries of the rahaans, and the habitations of the higher ranks, are usually elevated six or eight feet, and those of the lower classes from two to four. The walls of the houses are made of boards or mats, supported on bamboos or posts. One inconvenience, however, attends them all, that from their being composed of such combustible materials, the inhabitants are under continual dread of fire, against which they take every precaution. The roofs are lightly covered; and at every door stands a long bamboo with an iron hook at the

VOL. II. Part II.

end to pull down the thatch. There is also another pole with an iron grating at the extremity to suppress flame by pressure. Almost every house has earthen pots filled with water, standing ready on the roof; and a number of firemen patrol the streets during the night to put out all fires and lights after a certain hour.

It is customary when the king, or when persons of high rank travel, to erect temporary habitations for them, and this was done in honour of the British embassy. These temporary houses are thus described: <sup>127</sup> Temporary houses. "The materials of which these houses are made, are always easy to be procured; and the structure is so simple that a spacious and by no means an uncomfortable dwelling, suited to the climate, may be erected in one day. Our habitation, consisting of a small room to each, and a hall, open to the north, in little more than four hours was in readiness for our reception. Fifty or sixty labourers completed it in that time; and, on emergency, could perform the work in much less. Bamboos, grass for thatching, and the ground rattan are all the materials requisite; not a nail is used in the whole edifice; a row of strong bamboos from eight to ten feet high are fixed firm in the ground, which describe the outline and are the supports of the building; smaller bamboos are then tied horizontally by strips of the ground rattan to these upright posts; the walls composed of bamboo mats are fastened to the sides with similar ligaments; bamboo rafters are quickly raised, and a roof formed, over which thatch is spread in regular layers, and bound to the roof by filaments of rattan; a floor of bamboo grating is next laid in the inside, elevated two or three feet above the ground; this grating is supported on bamboos, and covered with mats and carpets: thus ends the process, which is not more simple than effectual. When the workmen take pains, a house of this sort is proof against very inclement weather. We experienced during our stay at Meeaday a severe storm of wind and rain, but no water penetrated nor thatch escaped; and, if the tempest should blow down the house, the inhabitants would run no risk of having their brains knocked out or their bones broken; the fall of the whole fabric would not crush a lady's lap dog."

In the administration of justice the Birmans are extremely regular and formal; the place where the judges of any district sit is called the *rboom*, where they hear the pleadings of parties or their counsel, and examine witnesses, whose depositions are taken down in writing. These depositions are sent to the maywoon or viceroy, who represents the king, and the judges transmit their opinions along with the evidence, which the maywoon either confirms or rejects as he thinks proper; and, in cases of capital conviction, orders execution or pardons the culprit. From his judgment there lies no appeal, unless the offender hold a royal commission; in which case the evidence must be transmitted to the council of state, and the king himself applies the law and pronounces judgment.

The building denominated the *rboom* is also the official hall where the members of provincial governments and all municipal officers are accustomed to assemble to transact public business. Every man of high rank in the Birman empire is a magistrate, and has a place of this description and name contiguous to his dwelling;

5 C

bu



A. fa.

but always on the outside of the enclosure of his court yard, and not surrounded by any fence or railing, in order to manifest publicity, and show that it is the seat of majesty and justice, to which all mankind may have free access. An imperial mandate to a governor, or an order from a governor to a petty miongee or chief of a small town or district, is invariably opened and read aloud in this sanctified hall. The Birman government, in the administration of public affairs, professes no such thing as privacy or concealment. The room is likewise an appendage of dignity, as it denotes him to whose habitation it is annexed to be a person of rank and consequence: a building of this sort was erected within a few yards of the front gate of the British ambassador's enclosure. It is to be remarked, that when the ambassador had obtained from the government the establishment of certain regulations respecting commerce, and had returned to the sea port of Rangoon, the viceroy of that district informed him, that the orders for carrying into effect the late regulations would be publicly read and registered at the room on the following day. The viceroy also invited him to send a confidential person to be present at the ceremony; adding, that the records were always open to public inspection; and that whoever chose might, at any time, procure a copy, by paying a trifling fee to the officers of the court. The result of this publicity is, that foreigners, acquainted with the character of the people, do not hesitate to trust themselves in the very centre of the country. At the distance of 150 miles from the coast, including the windings of the river, our embassy found a musselman merchant from Surat, out of economy, building a vessel of four hundred tons burden, instead of building it at the sea port of Rangoon. He meant, as soon as the hull should be finished, to float it down the stream. The inland navigation is considered as dangerous; but this merchant chose to encounter the risk for the sake of obtaining the teek timber at a cheap rate near the spot where it grows, and probably also for the sake of obtaining labour at a more moderate price. This adventurer furnishes a proof of the confidence that may be placed in the Birman government, and the security that a stranger has for his property.

130  
Military  
force.

The Birman government is of a feudal nature in the strictest sense of the word. The people are a nation of soldiers; every man in the kingdom being liable to be called upon military service, and war is deemed the most honourable occupation. The regular military establishment of the nation, however, as among our ancestors in feudal times, is very inconsiderable, consisting only of the royal guards, and as many troops as are necessary to preserve the police of the capital. These are supposed to amount in all, to about 2000 infantry, and 300 cavalry, though it is said that the cavalry scattered in small detachments through the districts adjoining to the capital, amount to about 2000. The infantry are armed with muskets and sabres, and are not uniformly clothed; the cavalry in the king's service, are natives of the northern province of Cassay, who are accounted much better horsemen than the Birman; they seldom use any other weapon than a spear about seven or eight feet long. They ride like all orientals with short stirrups, and a loose rein; their dress is not unbecoming; it consists of a tight coat, with

skirts reaching down to the middle of the thigh, and on their head they wear a turban of cloth rolled hard and plaited, which forms a high cone, that bends backwards in a graceful manner; their horses are small, but hardy and active, and are frequently exported to the western peninsula. When an army is to be raised, a mandate issues to all the viceroys of provinces and governors of districts, requiring a certain number of men to be at a general rendezvous on an appointed day; the levy is proportioned to the population of the province or district, estimated from the number of registered houses that it contains; the provincial court determines the burden which each house is to bear; a certain number of houses furnish a recruit among them, or pay 300 tacha in money, about 40l. or 45l.: The recruit is supplied with arms, ammunition, and, it is believed, with a daily allowance of grain from the government; but he receives no pay. The families of those conscripts are carefully retained in their districts as hostages for the good conduct of their relation. In case of desertion or treachery the innocent wife, children, and parent of the guilty person are dragged to execution without pity; even cowardice subjects the family of the delinquent to capital punishment, and this barbarous law is rigorously enforced.

A. fa.

By far the most respectable part of the Birman military force is their establishment of war boats; every town of note in the vicinity of the principal rivers is obliged to furnish a certain number of men, and one or more boats, in proportion to the magnitude of the place; thus the king can command at a very short notice 500 of these vessels: They are constructed out of the solid trunk of the teek-tree, which is excavated partly by fire and partly by cutting; the largest are from 80 to 100 feet long, but the breadth seldom exceeds eight feet, and even this space is produced by artificially extending the sides after the trunk has been hollowed: They carry from 50 to 60 rowers, who use short oars, that work on a spindle. The prow is solid, and is a flat surface on which, when they go to war, a piece of ordnance is mounted; a six, a nine, or even a twelve pounder. The gun-carriage is secured by lashings to strong bolts on each side, and swivels are frequently fixed on the curvature of the stern. Each rower is provided with a sword and a lance, which are placed by his side while he plies the oars. Besides the boatmen, there are usually 30 soldiers on board, who are armed with muskets: thus prepared, they go in fleets to meet the foe, and when in fight, draw up in a line, presenting their prows to the enemy. Their attack is extremely impetuous; they advance with great rapidity, and sing a war song, at once to encourage their people, daunt their adversaries, and regulate the strokes of their oars; they generally endeavour to grapple, and when that is effected, the action becomes very severe, as these people are endowed with great courage, strength, and activity. In times of peace they are fond of exercising in their boats, and they display much dexterity in the management of them. The vessels being low in the water, their greatest danger is that of being run down by a larger boat striking on their broadside, a misfortune which the steersman is taught to dread and to avoid above all others. It is surprising, says our author, to see the facility

131  
War boats.



Asia.

cility with which they steer and elude each other in their mock combats. The rowers are also practised to row backwards, and impel the vessel with the stern foremost; this is the mode of retreat, by means of which the artillery still bears upon their opponent. The largest of the war boats do not draw more than three feet water.

132  
Revenue.

The revenue of the Birman king is, according to the laws of their religion, as stated in their sacred books, a tenth of all produce, and it is certain that one-tenth is the amount of the king's duty on all foreign goods imported into his dominions. The revenue arising from the customs on imports, and from internal produce, is mostly taken in kind; a small part of which is converted into cash: the rest is distributed as received in lieu of salaries to the various dependants of the court. Princes of the blood, high officers of state, and provincial governors, receive grants of provinces, cities, villages, and farms, to support their dignity, and as a remuneration of their services; the rents of these assignments they collect for their own benefit. Money, except on pressing emergency, is never disbursed from the royal coffers: to one man the fees of an office are allotted; to another a station where certain imposts are collected; a third has land; each in proportion to the importance of his respective employment. By these donations they are not only bound in their own personal servitude, but likewise in that of all their dependants; they are called slaves of the king, and in turn their slaves are denominated slaves to them: the conditions of these grants include also services of war as well as the duties of office.\* Thus the Birman government exhibits almost a faithful picture of Europe in the darker ages, when, on the decline of the Roman empire, the principles of feudal dependance were established by barbarians from the north.

133  
The government  
feudal.

This system of feudal dependance may be considered as existing in the Birman government in its purest state. There are no hereditary dignities or employments; all honours and offices on the demise of the possessor revert to the crown, a circumstance which when taken along with the obligation to military service, which is incumbent upon all down to the lowest of the people, gives to this government that appearance of a military encampment and subordination which the feudal tenures have been understood to exhibit, but from which they degenerated in Europe, when dignities and authority became hereditary. In consequence of the feudal principles which here prevail, the subordination of rank is maintained and marked by the Birmans with the most tenacious strictness. In the manner of constructing houses, whether temporary or lasting, strict attention is paid to the form which indicates the rank of the inhabitant; nor dare any subject assume a mode of structure to which he is not legally entitled: the distinction consists chiefly of the number of stages of which the roof is composed; even domestic implements, such as the betel-box, water-flagon, drinking-cup, and horse-furniture, all express by their shape and quality the precise station of the owner; nor can one person intrude upon the rights of another under penalty of incurring a most severe punishment, which is never remitted. The tsaïe, or chain, is the badge of the order of nobility, of which there are different degrees, distinguished by the number of strings or small chains

134  
Ranks in  
society.

that compose the ornament. These strings are fastened by bosses where they unite: three of open chain-work is the lowest rank; three of neatly twisted wire is the next; then of six, of nine, and of twelve; no subject is ever honoured with a higher degree than twelve; the king alone wears 24.

As gold is understood to be the noblest of metals, the king of the Birmans, who is the fountain of rank, is designated or described by the appellation of *Shoe* or *golden*; thus, a particular village inhabited by watermen in the service of the king is called *Shoe-lee-rua*, or *golden boat village*, nor is the person of the sovereign ever spoken of but in conjunction with this precious metal. When a subject means to affirm that the king has heard any thing, he says, "It has reached the golden ears;" he who has obtained admission to the royal presence, has been at the golden feet; the perfume of ottar of roses, a nobleman observed one day, "was an odour grateful to the golden nose." Gold among the Birmans being a type of excellence, is not merely ascribed to their king, but on solemn occasions it is placed on his dress in such quantities as to prove not a little cumbersome. The form in which the ambassadors were introduced to his majesty, and the appearance which he made are thus described: "On entering the gate, we perceived the royal saloon of ceremony in front of us, and the court assembled in all the parade of pomp and decoration. It was an open hall, supported by colonnades of pillars, 20 in length and only four in depth; we were conducted into it by a flight of steps, and advancing, took our places next the space opposite to the throne, which is always left vacant as being in full view of his majesty. On our entrance, the base of the throne was alone visible, which we judged to be about five feet high; folding doors screened the seat from our view: the throne, called *yazapalay*, was richly gilded and carved; on each side a small gallery enclosed by a gilt balustrade extended a few feet to the right and left, containing four umbrellas of state; and on two tables at the foot of the throne were placed several large vessels of gold, of various forms, and for different purposes; immediately over the throne a splendid piasath or pyramid rose in seven stages above the roofs of the building, crowned by a tee or umbrella, from which a spiral rod was elevated above the whole.

Asia.

135  
Introduc-  
tion of am-  
bassadors to  
the Birman  
king.

"We had been seated little more than a quarter of an hour, when the folding-doors that concealed the seat opened with a loud noise, and discovered his majesty ascending a flight of steps that led up to the throne from the inner apartment; he advanced but slowly, and seemed not to possess a free use of his limbs, being obliged to support himself with his hands on the balustrade. I was informed, however, that this appearance of weakness did not proceed from any bodily infirmity, but from the weight of the regal habiliments in which he was clad; and if what we were told was true, that he carried on his dress 15 viss, upwards of 50 pounds avoirdupois of gold, his difficulty of ascent was not surprising. On reaching the top, he stood for a minute, as though to take breath, and then sat down on an embroidered cushion, with his legs inverted. His crown was a high conical cap, richly studded with precious stones; his fingers were covered with rings, and in his dress he bore the appearance of



<sup>Afia.</sup> a man cased in golden armour, whilst a gilded or probably a golden wing on each shoulder did not add much lightness to his figure. His looks denoted him to be between 50 and 60 years old, of a strong make, in stature rather beneath the middle height, with hard features, and of a dark complexion; yet the expression of his countenance was not unpleasing, and seemed, I thought, to indicate an intelligent and inquiring mind.

"On the first appearance of his majesty, all the courtiers bent their bodies, and held their hands joined in an attitude of supplication. Nothing farther was required of us than to lean a little forward, and to turn in our legs as much as we could; not any act being so unpolite or contrary to etiquette as to present the soles of the feet towards the face of a dignified person. Four Bramins, dressed in white caps, and gowns, chanted the usual prayer at the foot of the throne: a Nakhaan then advanced into the vacant space before the king, and recited in a musical cadence the name of each person who was to be introduced on that day, and of whose present, in the character of a suppliant, he entreated his majesty's acceptance. My offering, consisted of two pieces of Benares gold brocade; Doctor Buchanan and Mr Wood, each presented one. When our names were mentioned we were separately desired to take a few grains of rice in our hands, and, joining them, to bow to the king as low as we conveniently could; with which we immediately complied. When this ceremony was finished the king uttered a few indistinct words, to convey, as I was informed, an order for investing some persons present with the insignia of a certain degree of nobility; the imperial mandate was instantly proclaimed aloud by heralds in the court. His majesty remained only a few minutes longer, and during that time looked at us attentively, but did not honour us with any verbal notice, or speak at all, except to give the order before mentioned. When he rose to depart, he manifested the same signs of infirmity as on his entrance; after he had withdrawn, the folding doors were closed, and the court broke up."

It may here be added, that among the Birmans the royal family is held of so much importance, that to succeed to the throne, every prince must be descended from royal parentage by both father and mother; for this reason incestuous marriages are permitted to their princes, but to no body else; the king may indeed marry a second wife of inferior rank while his first is alive, but she is accounted merely a concubine, and her children are illegitimate, and cannot inherit the throne.

136  
Literature.

The books of the Birmans are generally formed of the palmetto leaf, on which the letters are engraved with a stylus. Books are sometimes composed, however, of thin stripes of bamboo delicately plaited and varnished over in such a manner as to form a smooth hard surface upon a leaf of any dimension. This surface is afterwards gilded, and the letters traced upon it in black and shining japan. The margin is illumined by wreaths and figures of gold. The Birmans write from left to right, and though they leave no distinguishing space between their words, they mark the pauses of a sentence and the full stops. Their letters are distinct, and their manuscripts are in general very

beautiful. Their language contains 33 simple sounds, and their alphabet consists of an equal number of distinct characters, exclusive of various marks and contractions, which are explained in their spelling-book. Their common characters consist of circles, and segments of circles, variously disposed and combined. The Birmans are extremely fond both of poetry and music: <sup>137</sup> Poetry. their poetry, when repeated by a well educated person, is exceedingly melodious; it is sometimes in successive, and sometimes in alternate rhymes: they have epic as well as religious poems of high celebrity, and they are fond of reciting in heroic numbers, the exploits of their kings and generals. It is said, that the prowess of the great Alompra, the deliverer of his country, is recorded in verses not unworthy of his courage and his fortune. The members of the British embassy were invited by the maymoon or viceroy of Pegu to one of their dramatic representations, which they applaud not a little. "The theatre was the open court, splendidly illuminated by lamps and torches; the maymoon and his lady sat in a projecting balcony of his house; we occupied seats below him, raised about two feet from the ground, and covered with carpets; a crowd of spectators were seated in a circle round the stage. The performance began immediately on our arrival, and far excelled any Indian drama that I had ever seen. The dialogue was spirited without rant, and the action animated without being extravagant; the dresses of the principal performers were showy and becoming. I was told that the best actors were natives of Siam, a nation, which though unable to contend with the Birmans and Peguers in war, have cultivated with more success the refined arts of peace. By way of interlude between the acts, a clownish buffoon entertained the audience with a recital of different passages; and by grimace and frequent alterations of tone and countenance extorted loud peals of laughter from the spectators. The Birmans seem to delight in mimicry, and are very expert in the practice, possessing uncommon versatility of countenance. An eminent practitioner of this art, amused us with a specimen of his skill, at our own house, and, to our no small astonishment, exhibited a masterly display of the passions in pantomimic looks and gestures; the transitions he made from pain to pleasure, from joy to despair, from rage to mildness, from laughter to tears; his expression of terror, and above all, his look of idiotism, were performances of first rate merit in their line; and we agreed in opinion, that had his fates decreed him to have been a native of Great Britain, his genius would have rivalled that of any modern comedian of the English stage.

"The plot of the drama performed this evening, I understood, was taken from the sacred text of the Ramayan of Balmiec (called by Sir William Jones, *Valmiec*) a work of high authority among the Hindoos. It represented the battles of the holy Ram, and the impious Rahwaan, chief of the Rakufs or demons, to revenge the rape of Secta, the wife of Ram, who was forcibly carried away by Rahwaan, and bound under the spells of enchantment. Vicissitudes of fortune took place during the performance that seemed highly interesting to the audience. Ram was at length wounded by a poisoned arrow; the sages skilled in medicine consulted on his cure; they discovered, that on the mountain Indragurry grew a certain tree that produced a gum,



Afia. gum, which was a sovereign antidote against the deleterious effects of poison; but the distance was so great that none could be found to undertake the journey; at length Honymaan, leader of the army of apes, offered to go in quest of it. When he arrived at the place, being uncertain which was the tree, he took up half the mountain and transported it with ease: thus was the cure of Ram happily effected, the enchantment was broken, and the piece ended with a dance and songs of triumph."

When at the capital, Ummerapooa, our author describes his visit to the royal library in the following terms: "Having finished our introductory visits to the different members of the royal family, we had now leisure to gratify our curiosity by viewing whatever the capital contained that was most deserving the notice of strangers. The day not being far advanced, we walked from the palace of Pagahm to see the pedigaut tick or royal library: it is situated at the north-west angle of the fort, in the centre of a court paved with broad flags, and close to a very handsome kioum or monastery. Before we entered the library we ascended the kioum, and found the inside correspond with the external appearance; the building was spacious and richly gilded; the pillars, the ceiling, and the pannels, were entirely covered with gold leaf; and the image of Gaudma shone with a brilliant lustre; a balustrade of wood, minutely and beautifully carved, protected the image from intruders. On the pannels of the walls were represented figures of inferior agents of the divinity, and of prostrate rhahaans in the act of devotion; these were all shaped in fret-work in the wood, and were of no contemptible workmanship; a well wrought foliage of the same bordered the pannels. The image of Gaudma in this kioum, was large, and made of marble; it was seated on a broad pedestal entirely gilded; in front of which, within the balustrade, stood a handsome girandole of cut glass of European manufacture: near the image was a gilded couch, which we were informed was the customary bed of the principal rhahaan, or head of all the Birman priesthood, when he chose to pass the night in the fort, which rarely happened. It was splendidly gilt; the bottom, however, was only a bare board; pillows were not wanting, for there were two, but they were made of wood. A mat spread on the floor is the highest luxury of repose in which the rhahaans indulge.

"From the kioum we proceeded to visit the adjacent library; it is a large brick building raised on a terrace, and covered by a roof of a very compound structure. It consists of one square room, with an enclosed veranda, or gallery, surrounding it: this room was locked, and as we had not brought a special order for seeing it, the person who had the care of the library said, that he was not at liberty to open the doors, but assured us, that there was nothing in the inside different from what we might see in the veranda, where a number of large chests, curiously ornamented with gilding and Japan, were ranged in regular order against the wall; I counted 50, but there were many more, probably not less than 100. The books were regularly classed, and the contents of each chest were written in gold letters on the lid. The librarian opened two, and shewed me some very beautiful writing on thin leaves of ivory, the margins of which were ornamented with flowers of

gold neatly executed. I saw also some books written in the ancient Pali, the religious text. Every thing seemed to be arranged with perfect regularity, and I was informed, that there were books upon divers subjects; more on divinity than any other; but history, music, medicine, painting, and romance, had their separate treatises. The volumes were disposed under distinct heads, regularly numbered; and if all the other chests were as well filled as those that were submitted to our inspection, it is not improbable that his Birman majesty may possess a more numerous library than any potentate from the banks of the Danube to the borders of China."

Books were afterwards brought for sale to the gentlemen of the embassy, but always clandestinely; and an exorbitant price was demanded, under pretence that if any person were discovered to have sold books to a foreigner without permission he would be liable to a severe penalty. A man was actually imprisoned for an offence of this nature, upon which Captain Symes sent a message to the chief woongee or prime minister, apprising him of the circumstance, and desiring to know whether it was illegal to sell books to himself or his suite; adding, that if their law prohibited it, he would reject such as in future might be brought, and direct every person under his authority to do the same. The woongee returned a civil message, and the man was set at liberty. His majesty being made acquainted with the affair, summoned, on the following day, the principal rhahaans to attend his council, and submitted to them, whether or not it was consistent with Birman tenets, to grant books that treated of their history and laws to foreigners? The conclave, after solemn deliberation, determined in the affirmative, and added, that it was not only admissible but laudable, for the dissemination of knowledge. His majesty was thereupon pleased to order a handsome copy of the Razawayn, or history of their kings, and of the Dhermasath, or code of laws, to be delivered to Captain Symes from the royal library; each was contained in one large volume, written in a beautiful manner, and handsomely adorned with painting and gilding.

138  
Music is a science that is held in no small degree of Music. estimation throughout the Birman empire, and is very generally cultivated; there is scarcely even a boatman who does not possess an instrument of some sort; they who can procure no better have at least what is called a *Jew's-harp*, with which they delight to beguile half an hour of a cool evening after a day spent in severe labour under a burning sun. Some of the professional musicians display considerable skill and execution; and the softer airs are pleasing even to an ear unaccustomed to the melodies of the country. The principal instruments are a foun or harp, made of light wood hollowed and varnished, in shape somewhat resembling a canoe with a deck; at the extremity, a piece of hard wood is neatly fastened, which tapers to the end, and rising curves over the body of the harp; from this curvature the strings, usually made of wire, are extended to a bridge on the belly of the instrument; there are two sounding holes, one on each side of the bridge. The size of the foun varies from two to five feet in length. The turr resembles our violin. It has only three strings, and is played on with a bow. The pullaway is a common flagelet. The kyezoup is a collection of about



<sup>139</sup>  
Time. <sup>Alfa.</sup> about 18 cymbals, suspended in a bamboo frame: these cymbals, varying in size, produce modulated gradations of sounds. The patola, or guitar of the Birmans, is said to be a curious instrument: it is the exact form, in miniature, of a crocodile; the body of which is hollow, with founding holes in the back; three strings of wire extend from the shoulder to the tail, to which they are fastened. It is played on by the fingers, and is generally used to accompany the voice. The bondaw is a collection of drums, oblong in form, and varying in size, which are suspended perpendicularly in a wooden frame by leather thongs. The whole machine is about five feet in diameter, and four feet high. The performer stands in the centre, and beats on the drums with a small stick. This instrument is always introduced when there is a full band, and is much used in processions, of which the Birmans are very fond, being carried by two men, while the performer shuffles along in the inside, playing as he goes. The heem is the pipe of Pan, formed of reeds neatly joined together, and sounded by a common mouth-piece. It produces a very plaintive melody.

The Birmans divide their year into 12 months; which, strictly speaking, cannot be called *synodical*, although they comprehend the same number of days. A revolution of the moon, in passing from one conjunction with the sun to another, is performed in 29 days 12 hours and 44 minutes; but the Birman lunations consist of 29 and 30 days alternately, which causes a difference between the Newtonian and Birman lunar account of 8 hours and 48 minutes. The Birman months are as follows:

	Days.
Tagoo contains	29
Kayoung	30
Nay Young	29
Wazoo	30
Wagoung	29
Toozelien	30
Tandaing Guite	29
Tazoung Moang	30
Gnadoh	29
Peazoo	30
Taboodiray	29
Taboung	30
	354

In order to complete a solar revolution, they intercalate in every third year a month of 30 days, which is called *Toodea Wazoo*; in this third year the months of Tagoo and Nay Young have each 30 days instead of 29; they likewise suppress or pass over a day, which, if reckoned, would either be the 31st Taboung, or the 1st of Tagoo; by these means the number of days in three solar years is thus computed:

Three lunar years of 354 days each,	1062
Intercalary month in the third year,	30
Two intercalary days in Tagoo and Nay Young,	2
Suppressed or passed over at the end of the year,	1
	1095

This computation corresponds in the number of days with three years; every fourth year, however,

<sup>Alfa</sup> will occasion the difference of a day on account of our bissextile, or leap year; of this the Birmans are fully sensible, as well as of many other defects in their manner of reckoning; to remedy the confusion likely to ensue from such erroneous calculations, their style or mode has frequently been altered by arbitrary authority.

The manner in which the Birman month is subdivided is somewhat peculiar; instead of reckoning the days progressively from the commencement to the close of the month, they divide it into two parts, and number the days of the increasing and of the waning moon separately. Each moon or month is also divided into weeks of seven days each, and Sunday, as with us, is the first day of the Birman week. The eighth day of the increasing moon, the fifteenth or full moon, and the eighth of the decreasing moon, are observed as sacred festivals. On these holidays no business is transacted in the room; mercantile dealings are suspended; handicraft occupations are forbidden, and the strictly pious take no sustenance between the rising and the setting sun. This last instance of self-denial, however, is uncommon, except in the metropolis, where it is submitted to by ambitious persons with a view to obtain favour with the king, who is understood to be a great favourer of the austerities of the Birman religion. Minute portions of time are divided as follows: "The space in which the finger can be raised and depressed is called *charazi*; ten *charazi* make one *piaan*; six *piaan* one *bezana*, about a minute. The day, of 24 hours commencing at noon, is divided into eight portions or *yettee*, of three hours each. These divisions of time are ascertained by a machine resembling the hour-glass, and sometimes by a perforated pan placed in a tub of water; they are announced by a stroke on an oblong drum, which is always kept near the dwelling of the chief magistrate of the city, town, or village; it is commonly raised on a high bamboo stage, with a roof of mats to protect it from the weather.

The edifice at the royal palace for the reception of this instrument is of masonry, and very lofty, whence the sound is said to be distinctly conveyed to the remotest quarters of the city.

The Birmans, like the Chinese, have no coin. Silver in bullion, and lead, are the current monies of the country; weight and purity are of course the standard of value, and in the ascertainment of both the natives are exceedingly scrupulous and expert. What foreigners call a *tackal*, properly *kiat*, is the most general piece of silver in circulation; it weighs 10dwts 10 $\frac{1}{2}$ gr.; its subdivisions are, the *tubbee*, two of which make one *moo*; two *moo*, one *math*; four *math*, one *tackal*; and one hundred *tackal* compose one *wiss*. Money scales and weights are all fabricated at the capital, where they are stamped, and afterwards circulated throughout the empire; the use of any other is prohibited. The bankers, called by foreigners *pyinions*, are likewise workers in silver and assayers of metal. This is a class of people very numerous, and indispensably necessary, as no stranger can undertake either to pay or receive money without having it first examined. Every merchant has a banker of this description, with whom he lodges all his cash, and who, for receiving and paying, gets an established commission of one per cent; in consideration of which he is responsible for the quality of



<sup>141</sup> <sup>Afia.</sup> of what goes through his hands; and in no instance has it been known that a breach of trust was committed by one of these bankers. The quantity of alloy varies in the silver current in different parts of the empire; at Rangoon it is adulterated twenty-five per cent; at Ummerapoor, fine, or what is called *flowered silver*, is most common; in this latter all royal dues are paid. Any person may have his silver either purified or depreciated to whatever standard he chooses; the nearest silversmith will be glad to perform the work, free from charge for his labour, as the bringer, by the operation, must lose a trifle, which the artist gains; the small quantity of metal that adheres to the crucible is his profit.

<sup>141</sup> Measures.

The Birman measures of length are a paul-gaut or inch, 18 of which compose the jaim or cubit; the faundgaling or royal cubit, equal to 22 inches; the dha or bamboo, which consists of 7 royal cubits; 1000 dha make one Birman league or dain, nearly equal to two British miles and two furlongs; the league is also subdivided into tenths. The Birmans keep their accounts in decimals, after the manner of the Chinese.

<sup>142</sup> Arts. Agriculture.

The Birmans have hitherto carried few of the arts to very great perfection. The art of agriculture, which is the foundation of all others, seems in a very imperfect state; this, however, does not appear to arise so much from want of skill in the people as from their present situation, which renders great exertions to procure subsistence by no means necessary. The soil is extremely fertile, while the population is very scanty; the Birmans, therefore, are somewhat in the state of colonists upon a new territory; land is abundant and cheap, while labour is obtained with difficulty; hence they cultivate only the most fertile spots, and these in an indifferent manner, leaving the greater part of the work to nature, which has been very bountiful to them. They are not, however, altogether unacquainted with some useful practices; they everywhere burn the rank grass, once a year, to improve the pasture. In some quarters of the country neat farms are to be seen, with lands well fenced and divided into enclosures to receive the cattle, of which there are great abundance; the fields are divided by thorn hedges; the low grounds are prepared for rice, and the higher lands are planted with leguminous shrubs, or left for pasture.

<sup>143</sup> Ship-building.

The Birmans are at present endeavouring with great spirit to improve their marine architecture. Formerly, they used only small vessels, no better than a kind of boats; but, having obtained farther information from their communication with Europeans, they are now launching vessels of considerable magnitude. When the British embassy were at Rangoon, they saw several ships upon the stocks from 600 to 1000 tons burden; one belonging to the maywoon of Pegu about 900 tons was considered, by professional men, as a specimen of excellent workmanship; it was entirely formed by Birman carpenters upon a French model, as are most of their large vessels, the Birmans having received their first rudiments of the art from that nation; three or four vessels of burden were likewise in a state of forwardness belonging to English adventurers. Birman shipwrights appear to finish their work well; they are athletic men, and possess, in an eminent degree,

that vigour which distinguishes Europeans, and gives them pre-eminence over the enervated natives of Hindoostan. <sup>Afia.</sup>

Upon the sea coast they manufactured great quantities of salt, from which the government derives a considerable revenue. Cloths of different kinds are manufactured by the women in all parts of the empire; and even in the royal palace they carry on domestic manufactures. On a visit to the mother of the queen, the ambassador saw, in one of the galleries of her palace, three or four looms at work. At Pegu the women weave for their own and their husbands use silk and cotton cloth; the thread is well spun; the texture of the web is close and strong, and it is mostly chequered like Scotch tartan. At a town in the interior called *Pakang-yag*, situated upon the river Irrawaddy, large quantities of silken cloth, and of silk and cotton mixed, are manufactured. The silk of which these goods are made comes from Yunan, the south-west province of China, in a raw state; the colours are bright and beautiful; the texture is close, and the cloth is said to wear much longer than any Chinese or Indian manufacture. At a town called *Summei-kioum* is the greatest manufactory of saltpetre and gunpowder in the kingdom. From a prejudice, not unusual in the infancy of commerce, neither saltpetre nor gunpowder is suffered to be exported upon any plea. At the suburbs of a town called *Pagahm*, the members of the embassy found the inhabitants employed in pressing oil from the sesamum seed; the grain is put into a deep wooden trough, in which it is pressed by an upright timber fixed in a frame; the force is increased by a long lever, on the extremity of which a man sits and guides a bullock that moves in a circle, thus turning and pressing the seed at the same time; the machine was simple, and answered the purpose effectually. There were not less than 200 of those mills within a narrow compass. From the circumstance of the cattle being in good order, we concluded, that they were fed on the seed after the oil was extracted. The land about Pagahm scarcely yields sufficient vegetation to nourish goats.

<sup>144</sup> Salt.  
<sup>145</sup> Cloths.

<sup>146</sup> Saltpetre and gunpowder.

<sup>147</sup> Oil mills.

Our readers will readily believe, that we perused with much pleasure the following passage in Captain Symes's Account of his Embassy: "Among the articles of foreign trade which had found their way into the Birman country, nothing was held in higher estimation than the European glassware, imported into Rangoon from the British settlements in India. The art of vitrification has long been known and practised in most countries of the east; but nowhere can they make a pure transparent substance, like that which is brought from Europe. The Birman monarch, who is a great admirer of the manufacture, was particularly desirous to introduce it into his own dominions; and supposing that every Englishman must be versed in the knowledge of making whatever comes from his own country, he sent a message to request that I would furnish his artificers with such instructions as might enable them to fabricate glass of a quality equal to what was made in England. Unluckily none of us happened to be skilled in the mystery of a glass-house; all, therefore that we could do, was to explain the principles of the art, which Dr Buchanan obligingly undertook; and, in order to facilitate them in the acquirement,

<sup>148</sup> Glass.



<sup>Afia.</sup> ment, and guide them in the practice, I lent them the *Encyclopædia Britannica*, and pointed out the article where the process is fully explained. Baba Sheen, the second in authority at the port of Rangoon, and the Armenian interpreter, translated it into the Birman tongue."

As the Birmans possess within their country the whole materials from which the best kinds of glass are prepared, there is little reason to doubt, that this active people would speedily be enabled to reduce to practice the lesson they obtained in the manner above mentioned; and thus, the proprietors and conductors of the *Encyclopædia Britannica*, have the satisfaction to know, that the former edition of their work, has contributed to diffuse in the most distant regions of the globe, a knowledge of those arts, which add convenience and elegance to civilized life. The utility of their undertaking has exceeded the limits of their own foresight, as they have, in this instance at least, laboured for the instruction and improvement of a prince and of a people, whose very name and existence were unknown to them when their labours commenced. Happy had it been for the nations of the east, had they derived from their intercourse with Europeans no other fruits than the extension of science, and the enlargement of their powers, by an acquaintance with that command over the different objects of nature, which human ingenuity has attained in this quarter of the world.

One manufacture on which the Birmans bestow much attention, must not pass unnoticed. It is carried on at a village called *Kyeock Zeit*, and consists of the formation of idols of marble. Our author saw 30 or 40 large yards crowded with statuaries at work, on images of various sizes, but all of the same personage, Gaudma, sitting cross-legged on a pedestal. The quarries whence the materials are obtained, are only a few miles distant. The marble is brought to the village in blocks; and after being fashioned, the images are publicly sold to pious people. The largest, little exceeded the human size, and the price was said to be 100 tackals, that is, 12 or 13l.; but some diminutive Gaudmas were to be disposed of as low as two or three tackals. The workmen were civil and communicative. Their tools were a chisel and a mallet, and they smooth the image with freestone and water. Many of the idols were beautifully polished, which is said to be accomplished by rubbing the marble with three different sorts of stone; the first rough, the second finer, and the third, such as hones are made of. The workmen afterwards use the palms of their hands. This last operation gives it a transparent clearness, far surpassing the brightest polish that European marble ever exhibits. Such images as are designed for gilding, are not finished so highly; but none of the idols are allowed to be sold to any, except native Birmans.

<sup>149</sup> <sup>150</sup> <sup>151</sup> <sup>Commerce.</sup> An extensive trade is carried on between Ummerapoora the capital of the Birman dominions, and Yunan in China. The principal export from the Birman territory is cotton, of which it is said there are two kinds, one of a brown colour, of which nankeens are made, the other white, like the cotton of India. This commodity is transported up the Irrawaddy in large boats, as far as a place called *Bamoo*; where it is bartered at the common market with Chinese merchants, who convey it partly by land and partly by water, into the Chinese dominions. Amber, ivory, precious stones, betel nut,

and the edible nests brought from the eastern Archipelago, are also articles of commerce. In return, the Birmans procure raw and wrought silks, gold leaf, preserves, paper, and some utensils of hardware. A great inland commerce is also carried on between the capital and the southern parts of the empire, which is greatly assisted by the noble river Irrawaddy, that waters the country. The chief objects of this commerce are the necessaries of life. Several thousand boats are employed in transporting rice and salt from the southern or lower provinces, to supply Ummerapoora and the northern districts. Up the same stream are conveyed China ware and glass; also European broad cloth, with some hardware and coarse muslins from Bengal. Silver, lace, and precious stones, are brought down by the merchants.

We have treated somewhat minutely of the manner and situation of this people, because they form a striking exception to the general features of the Asiatic character, as it has always existed among the other nations that inhabit the more fertile districts of that great continent. It is to be observed, that the Birmans are also of importance, in consequence of their geographical position in relation to the great British empire in India. A durable vessel of burthen cannot be built in the Ganges without the aid of teak plank, which can only be procured from Pegu. Should the timber trade of the Birman empire therefore be interrupted, the marine of Calcutta, amounting to 40,000 tons of shipping, would be reduced nearly to annihilation. This marine has already been of importance to Britain. In 1794, 14,000 tons of shipping, almost entirely India built, were freighted to carry rice to England, and reduced the price of that article of food to three halfpence per pound. The maritime ports of the Birman empire are extremely commodious for Indian commerce. Britain possesses the western side of the bay of Bengal; the Birmans the eastern, which is far superior to the former for the purposes of navigation. From Cape Comorin to the Ganges, is an unbroken line of exposed shore, without a single harbour capable of affording shelter to a vessel of 500 tons burthen: But the Birmans possess three excellent ports, Negrais, the securest harbour in the bay; Rangoon, and Mergui, each of which is as convenient, and not less accessible than the Ganges, which is the only British port in the whole bay. In such circumstances, the importance to the government of the western peninsula of retaining a good understanding with these people, cannot be disputed. They are a very different race from the timid and passive Hindoos, whom we have conquered. Though unequal to Europeans in manufactures or in arts, yet in a climate adapted to their natural constitution and unfriendly to ours, they might prove dangerous enemies, in a contest with whom much might be lost, and nothing can be gained.

After this account of the Birmans and their empire, it will be unnecessary to take much notice of the remainder of the eastern peninsula, as the inhabitants of that territory appear upon the whole to possess the same general character, laws, and manners. To the south-east of the Birman territory, the great eastern peninsula becomes forked, or divides itself into two separate peninsulas, with the gulf of Siam between them. The most westerly of these two peninsulas, is a narrow tract



of country called *Malacca*, which stretches southward to a great distance, till it approaches the equator. The peninsula to the eastward of the gulf of Siam is much broader than the other, but proceeds to a much less distance southward. The city of Siam stands at the bottom of the bay of that name, where the division of farther India into two peninsulas commences. The peninsula, beyond the Siamese territory, contains the countries called *Ciampa*, *Cambodia*, and *Cochin-China*, on the east, and *Tonquin* on the north-east.

154  
Malacca.

The isthmus, or neck of land, by which the peninsula of Malacca joins the continent, is only about 50 miles in breadth. To the westward of it, at the distance of 260 miles, is the island of *Junkfeilon*, which yields considerable quantities of tin. In 1784, 500 tons of that metal were exported. Malacca itself yields few commodities for exportation, excepting ivory and tin. The city of Malacca, however, is a true emporium or magazine of the various rich articles of commerce brought from the surrounding countries. This coast was known to the ancients. It was celebrated for its gold, on account of which it received the appellation of *Aurea Chersonesus*. Some imagine this to have been the *Ophir* of Solomon, though others contend that *Ophir* was a port in Africa. One reason for suspecting this or some other port in India to have been *Ophir*, is this, that Solomon's fleet is said to have brought home peacocks. These birds are natives of India, and at that early period were unknown in the interior or southern coasts of Africa. It is farther to be remarked, that on the eastern side of this peninsula, much gold is found near *Pahang*. This town is situated in N. Lat. 3° 50', in a most fruitful country, at the mouth of a river which has an estuary of about a mile broad. The river contains much gold. Lumps of five or six ounces weight are said to have been found. It is brought up by divers. Sometimes eight hundred weight has been exported. This place, therefore, might well be the *Ophir* of Solomon; and the Jewish historian, *Josephus*, actually fixes it here.

1 Kings, x.  
23.

*Trangano* or *Tringoran*, a small town a little to the north of *Pahang*, is seated on a river near the sea. It consists of about 1000 houses, half of which are inhabited by Chinese, who traffic in their junks to Siam, *Cambodia*, and *Tonquin*. *Trangano* is most deliciously situated amidst low hills, covered with the eternal verdure of undeciduous trees. Lemons, oranges, mangoes, and all the fruits of the Indies, grow here in perfection; and the vallies produce grain, pulse, sugar, and especially pepper, in great abundance; but only in consequence of the industry of the Chinese, for the Malays themselves are too indolent to make the earth yield its full increase. We know too little of the ancient history of this singular people in particular, and indeed of the whole peninsula beyond the Ganges in general, to be able to account in a satisfactory manner for their present state, or their connexion with a multitude of adjoining tribes and states. The ancients formed of the whole of this great eastern peninsula, along both sides of the bay of Siam, a mighty empire, to which they gave the appellation of *Thina*, or *Sina*, distinguishing them from the Chinese on the one hand, and from the *Hindoos* on the other. The similarity of character and customs that is to be found among the whole of these states of *Birmah*, *Malacca*, *Siam*, *Cambo-*

VOL. II. Part II.

*dia*, *Cochin-China*, and *Tonquin*, render the existence of such an ancient empire extremely probable. It may have been destroyed by Tartar conquest or internal revolutions, and the inhabitants may have lost a great part of the civilization, and a multitude of the arts which they once possessed. That this last supposition is not only probable, but in some degree true, is sufficiently demonstrated by a fact mentioned by Captain *Symes*, in the account already noticed, of his embassy to *Ummerapoor*. He saw in many places beautiful vaults and arches formed of stone or brick, supporting lofty buildings; but he learned, that the art of constructing vaults or arches is at present entirely lost in the country, and that no Birman workman will at the present period engage to erect a building of that kind.

The character of the inhabitants of the peninsula beyond the Ganges, appears to be more strikingly marked in the Malays than any other people; and at some remote period, they have undoubtedly made a considerable figure in these regions, and must have possessed a great spirit of national enterprise. They differ from the other states of the peninsula only in this, that the Arabs have converted them to Mahometanism. The feudal system at present exists among them in full perfection or barbarity. They have the same pride of honour and delight in war that distinguish the *Birmans*, and that marked the character of the ancient inhabitants of the north of Europe. They are governed by petty chiefs, who are engaged in endless and sanguinary hostilities against each other. Like the *Birmans*, the people in their persons are robust, but not tall. They are active and restless, and their ferocity in war is unbounded: No enterprise is so dangerous as to deter them from engaging in it. Not only will a handful of them in a boat attempt to board an European vessel of any size, and to murder the crew with their poniards; but when employed by the Dutch as soldiers in their wars against the English or Portuguese, 14 or 20 of them have been known to sally from a fort, under cover of the smoke of the cannon; and having found their way in an instant into one of the batteries of the besiegers, they have stabbed almost the whole gunners while working the artillery, and retreated with little loss, and before effectual measures could be taken against them. The Dutch are so cautious with regard to them, that unless in case of extreme necessity, they never employ above two or three of them at once as mariners on board the same ship: Yet this people, barbarous as they now are, have at one period made such national exertions, that their race and language is found to extend over a very large portion of the globe. To the south and east of *Malacca* the great Asiatic Archipelago is situated, containing a multitude of isles of immense extent. Over a great part of these isles the Malays have spread themselves, and their language is spoken. The first island to the south and south-west of *Malacca* is *Sumatra*, the passage between which and the main land, is called the *Straits of Malacca*. The island of *Sumatra* is crossed in the middle by the equator: its length is about 800 miles, and its breadth about 130. A range of mountains runs along the whole island, sometimes in a double or triple chain, with beautiful vallies between them; but unless where cleared, both vallies and mountains are clothed with shady forests. The island

Asia.

155  
Character  
of the Ma-  
lays.

156  
Asiatic Ar-  
chipelago.



<sup>Afia.</sup> island has long been celebrated for its gold, and a mountain under the line is called *Opbir*, which affords an additional reason for supposing that the ships of King Solomon came to this quarter of the world. It is 13,842 feet high, or two miles and 1094 yards. The Malays upon the island are said to be skilful artists in works of fillagree, in both gold and silver. Sugar, ivory, teak wood, and all the other tropical productions, are found upon it; but its climate is extremely destructive to Europeans. Though no snow is ever seen on the island, yet the inhabitants of the mountains, like those of other Alpine regions, are subject to monstrous wens in the neck, or goitres.

To the east of Sumatra, and divided from it by the straits of Sunda, is the island of Java, in which also the Malays abound, and in which the Dutch have their settlement of Batavia. Like Sumatra, a chain of mountains runs along the middle of it, and it is extremely unhealthy to Europeans. Eastward of Java is the great island of Borneo, immediately under the line. A great part of the coasts is in the hands of the Malays, though Moors and Javanese are also found here. It produces all the vegetable and mineral productions that are found in the other parts of the Indies. The interior is mountainous, but unhealthy; and this, like all the rest of these islands, is subject to frequent and very dangerous earthquakes. The original inhabitants of this and the other islands in its neighbourhood are extremely barbarous, and have been driven from the sea coast by the Malays and other strangers. To the north-east of Borneo are the Philippine islands; and to the south-east are Celebes and the Molucca isles, beyond which is New Guinea, with a multitude of adjoining islands, all inhabited by barbarous tribes of little importance in a general view of Asia. To the south of all these islands is the vast island, or rather continent, of New Holland, which is scarcely inhabited, though equal in size to Europe.

<sup>157</sup>  
Siam.

Returning to the continent of farther India, the kingdom of Siam is situated, as already mentioned, at the bottom of the bay of that name, to the south-east of the Birman territory. The city stands at the mouth of a large river called *Meinam*, which fertilizes the country, and affords an internal navigation to a considerable distance. The river is deep, rapid, and broader than the Elbe. The upper part is rocky and interrupted by cataracts. At its lower part, the stream divides into several channels, passing through a level country, which it fertilizes by periodical inundations. The country is woody. The houses, like those of the Birmans, are raised aloft on stilts or posts; but upon the river a kind of floating habitations are used, in which many people constantly reside, and occasionally move from place to place when the waters are high. The capital is in latitude 14° 30', and is surrounded by a lofty brick wall, which has not always been able, as already noticed, to defend it against the arms of the Birmans. Rice is produced in amazing crops, and all the fruits of the Indies rise up with little or no cultivation. Logwood, like that cut in Campeachy, is said to be one of the productions of the country. The Siamese territory is very narrow from east to west, but extends northward along its own river to a considerable distance.

<sup>158</sup>  
Cambodia.

To the eastward of Siam is the kingdom of Cambodia,

extending along the banks of its river, which flows in a course nearly parallel to the river of Siam. The most southerly point of the country, being the eastern extremity of the gulf of Siam, is called *Cape Cambodia*, beyond which the coast turns to the eastward, and the river Cambodia discharges itself into the sea through several mouths, forming by its alluvions a very fertile tract of territory, like the rivers of Siam and of Birmah. The capital stands 90 miles up the river, and consists only of one street, built on an eminence, to preserve it during the inundations: The present city of Cambodia, is supposed to be near the site of *Thina Metropolis Sinarum*, of Ptolemy and Mar-<sup>159</sup> Ancient city.  
cianus. Mr Caverhill quotes Argensol for the proof, and says, on his authority, that marble ruins of an extensive city have been discovered to the north-west of Cambodia; yet Ptolemy relates, that it was not surrounded with such walls, nor had any thing worth mentioning. Arrian, in his *Periplus Maris Erythraei*, calls it the greatest of the inland cities, and that it sent to Barygaza, the modern Barochia, on the western side of Hindoostan, wool, thread, and *olbonium sericum*. These were carried the whole of the journey by men on foot; prodigious indeed must the journey have been, if it is true that they went through Baetra, a detour of amazing extent. The kingdom of Cambodia was known to the Arabs, by the name of Rachmi. It was visited in the ninth century by two Arabian travellers, who report, that the finest muslins in the world were made there, and that the natives wore garments so fine, that they might be drawn through a middle-sized ring. The same writers tell wonderful things of the *karkandan* or unicorn; but from the whole description, it is evident, that they mean no other animal than the one-horned rhinoceros.

The noted island of Pulo Condore lies about <sup>160</sup> 15 leagues to the south of the western channel of the Cambodia. It is situated in latitude 8° 40'. Its form is that of a crescent; the length not above eight miles, the greatest breadth about two: the whole is lofty and mountainous, and it is surrounded by lesser isles. The name is derived from *pulo*, an isle, and *condore*, a calabash, from its production of that fruit. It was visited by Dampier in 1686. Here Dampier's crew found the custom to prevail which we have noticed, among the inferior class of Birmans, which exists over the whole peninsula beyond the Ganges, of the people of ordinary rank allowing their women to live with strangers. Our poet, Prior, humorously exaggerates the practice, and by mistake ascribes it to the Chinese.

“ In China, Dampier's travels tell ye,  
(Look in his index for Pagelli).  
Soon as the British ships unmoor,  
And jolly long-boats row to shore;  
Down come the nobles of the land,  
Each brings his daughter in his hand;  
Beseeching th' imperious tar,  
To make her but one hour his care.  
The tender mother stands affrighted,  
Lest her dear daughter should be slighted;  
And poor Miss Yaya dreads the shame  
Of going back the maid she came.”

<sup>161</sup>  
Eastward of the estuaries of the river of Cambodia, is Ciampa.  
the



Asia.

the small territory of Ciampa, extending about 150 miles along the shore: the breadth not exceeding 90. The people appear to be of the same race with those that inhabit the rest of the peninsula, but their chief is tributary to the Cochinchinese, whom, however, they excel in naval, though not in military affairs. Their ships, or junks, are extremely well built; they are chiefly employed in the fisheries, which are very considerable, and form their most important source of commerce. The Chinese send ships very frequently to the northern parts of the country laden with tea, an inferior sort of silk, porcelain, and some other commodities of that empire. They take in return gold and columbo wood, to be burnt on the tombs of their ancestors and relations, or before the altars of their divinities. It is to be observed, that a strange mixture of religions here exists, in consequence of the influence of the neighbouring nations upon this small maritime state. Many of the people are Mahometans. Others are followers of the Chinese philosopher, Confucius; a third sort are worshippers of Gaudma; and the greatest part of the people jumble all these systems together. They all agree, however, to tolerate each other.

162  
Cochin-  
China.

To the eastward of its tributary, Ciampa, the kingdom of Cochinchina begins, forming a long stripe of territory along the eastern shore of the farther peninsula of India. To the westward it is limited by a chain of lofty mountains, which run parallel to the coast of the Chinese sea, or eastern Pacific ocean. The whole of Cochinchina, beginning from the borders of Cambodia, is in form of a bow, bending into the ocean as far as Cape Varelle, in Lat. 13°, when it inclines to its northern extremity, in Lat. 17° 30'. The whole length of this great curvature is about six hundred and sixty miles, the breadth not exceeding that which we have ascribed to Ciampa. The northern borders are defended by a wall, which runs from the sea to the great chain of mountains, and forbids all approach from that quarter, as the inaccessible chain itself does every attempt of invasion from their western neighbours. The lower parts of this kingdom are overflowed during the rainy season, and here, as elsewhere in India, rice is the great harvest: a kind as white as snow is cultivated on the mountains and dry soils: when dressed, it is of a slimy viscous nature, and is made into pastes. Sugar, cotton, pepper, and other Indian commodities, are also cultivated here in great abundance by the labour of free men, and are articles of commerce with China. Among other commodities which are exported, mention is made of silk, and of certain kinds of wood much esteemed in the east, such as, aloes wood, or agollocha, erroneously called *eaglewood*, columbo, and others of value, either in mechanics, or for their sweet scent. The price of columbo wood on the very spot is five ducats a pound, at the ports sixteen, and in Japan, to which much is exported, two hundred. A pillow of this wood is the highest luxury of the orientalists, particularly of the Japanese, who will give three or four hundred ducats per pound for a piece big enough for that purpose. The agollocha bears a good price, great quantities being shipped for Hindoostan for the use of the Hindoos, to burn their dead, who seem to emulate the ancient Romans in the aromatic profusion of their funeral piles.

Asia.

163  
Military  
power of  
Cochin-  
China.

The war boats of the Cochinchinese are very numerous, and resemble those of the Birmans. Those allotted to the defence of the coast are finely painted and highly varnished, rowed with fifty oars, and carry a cannon at the head, and two small ones on each side. The navy of the country is quickly manned, every district being bound to furnish a certain number of sailors, who serve with alacrity, as they are well treated, and their wives and children supported during their absence. They are dressed in uniform, with a gilt helmet, and a cloak which leaves their right arm quite bare.

The Cochinchinese have considerable fisheries, and both consume and export fish in large quantities. They make use of elephants as beasts of burden. On the backs of these huge animals they place a machine like the body of a coach, which conveys of outside and inside passengers about thirteen or fourteen persons. When the elephants arrive at a river, they take the water very readily, and even convey their fare in perfect safety over an arm of the sea a mile wide. The people of this country resemble the Chinese in their persons, but they are less in body, and more brave and active. The complexion of those on the coast is olive: that of the inland inhabitants near the mountains is fairer, and approaches to that of Europeans.

164  
Tonquin.

The bay of Tonquin begins near the wall of Cochinchina, at the northern extremity of that kingdom. The entrance of the bay is bounded on the eastern side by the island of Hainan. The tides of this bay have long been remarked on account of the following peculiarity, that a single flux and reflux occupies a full period of 24 hours. The kingdom of Tonquin is very narrow towards the south, at the Cochinchinese wall. To the west it is there bounded by the Cochinchinese chain of mountains, which soon retires, and gradually leaves a larger and larger expanse to the great plain of which this kingdom consists. The country is very populous, being thick set with villages. It is watered by a river, which, coming from the north or north-west, is called by the name of the country, Tonquin. It enters the bay by two mouths, one of which, having only 12 feet water, is frequented by the flat-bottomed vessels of the Siamese and Chinese; but the other being deeper, is frequented by European vessels. The river is subject, like all others in that territory, to periodical floods, which fertilize the soil, and enable it to give forth abundant crops of rice and other productions of warm climates. The natives are acquainted, like the Birmans, with the practice of rearing occasional dwellings for any temporary purpose. About six leagues from the mouth of the river is the village of Domea, usually consisting of a hundred houses; yet, on the arrival of the European ships, it soon increases to a large town. The natives resort, for the sake of trade, from all parts. Houses suddenly spring up; for being only constructed of frames of bamboo, and the roof of palm or other leaves, a temporary town is quickly formed, in which a fair is kept as long as the ships remain in the harbour. Here, as well as in Cochinchina, Chinese opinions and notions prevail in a considerable degree. The religion of the country appears to be that of Budho, or Gaudma. Here also, as among the Birmans and all the other nations of the peninsula beyond the Ganges, the strange practice pre-



A sia.

vails of rendering the teeth black by means of art. All persons, high or low, rich and poor, are under the necessity of undergoing a dyeing process, for the purpose of avoiding that disgrace to human nature, of having teeth white, like those of dogs or elephants. Prior mentions this custom, but transfers it to the Chinese :

“ In China, none hold women sweet,  
 “ Unless their snags are black as jet :  
 “ King Chiku put nine queens to death,  
 “ Convict on statute iv'ry teeth.”

165  
 Review of  
 the eastern  
 peninsula.

From the brief description here given of these countries, it will not be difficult to understand the physical aspect of the great peninsula of farther India, and the political divisions which have resulted from it. Aracan on the west, and Cochin-China on the east of the peninsula, bear a considerable resemblance to each other. They both consist of a narrow tract of fertile territory, extending along the shore, and having behind them towards the continent a large chain of lofty and rugged mountains, which form the natural as well as political boundary. The rest of the peninsula is chiefly formed in the following manner:—Several chains of mountains run from north to south. Between every two chains is a tract of fertile country, watered by a large river, proceeding also from north towards the south. Each of these valleys forms a kingdom, which is long and narrow, and bounded to the east and the west by a chain of mountains: Thus are formed the countries of Birmah, Siam, Cambodia, and Tonquin. The narrow peninsula of Malacca, however, must be regarded as a sort of territory by itself, probably formed by a continuation to a great distance southward of the chain of mountains that divides the Birman from the Siamese territory. Were it possible to unite into one empire the various nations which we have mentioned as inhabiting this vast peninsula of India to the eastward of the Ganges, the vigorous character of the people would probably render them extremely formidable to their neighbours the Chinese on the north-east, as well as the Hindoos of the western peninsula. Any union of these countries, however, into one state, though a possible event, could only be accomplished during a great length of time, and after many struggles, in consequence of the bravery of the people, and the readiness with which they engage in war. The Birmans have indeed conquered Pegu, but only in consequence of a long continuance of the most sanguinary conflicts, which exhausted the population of both states, and almost destroyed the inhabitants of the conquered country. Aracan was, no doubt, more easily united to the Birman empire; but this in all probability arose from its being accidentally ill governed, and perhaps also from its vicinity to Hindoostan, which had led its inhabitants to acquire much of the feeble character of the Hindoos. In the contests between the Birmans and the Siamese, it appeared that neither of the nations could be subdued, and that before the one of them could enlarge its territory, it must nearly exterminate the population of the other.

166  
 China.

From the peninsula of farther India, we proceed north-eastward to China, of which we shall not here find it necessary to say much. As already mentioned, it is the tract of country which forms the gradual descent from the high regions of Tartary towards the Pa-

cific ocean on the east. The dominion of the Chinese emperor extends over a civilized people, from the straits of Hainan, in N. Lat. 20° 13', to the extremity of the province of Pe-tche-li, in Lat. 41° 15', comprehending a space of nearly fifteen hundred miles in length, and in breadth above a thousand. Or, more accurately, according to the information obtained by Lord Macartney's embassy, China Proper includes a space of 1,297,999 square miles, inhabited by a population of 333,000,000. The island of Hainan, already mentioned, is at the southern extremity of the empire, but it is only half subdued, the natives in the interior of it maintaining their independence amidst lofty mountains. It produces gold, and the *lapis lazuli*, which is in great request among the Chinese, for giving a blue glazing to their porcelain. It has considerable fisheries on its coasts. From the continent opposite to this island the coast proceeds towards the north-east to the bay of Canton, which is the port frequented by Europeans. At Canton the celebrated imperial canal begins, or passage by water, which reaches from hence within land to Pekin and the extremities of the empire, an extent of about 1800 English miles. Part of this inland navigation is formed by rivers and lakes, and the rest of it consists of a canal 900 miles in length, and a fathom and a half in depth. On the course of this internal navigation, multitudes of populous cities are situated, amidst a country in which the cultivation of every part of the soil is carried on with the most minute attention and oeconomy.

A sia.

167  
 Isle of Hai-nan.

168  
 Canton.

Of the coasts of China, and indeed of the country at large, not much is known, in consequence of the jealousy which they entertain of all foreigners, and of the great rigour with which they put in force their prohibition to trade in any of their ports except Canton.

169  
 Coasts of China.

The next province to the north-east, proceeding along the coast, is called *Foo-tchien*. The country is hilly and irregular, but, by the industry of the inhabitants, the sides of the hills are formed into terraces, ascending in a series of twenty or thirty, one above another; and these terraces are often continued for several miles in length. Water is forced up to these terraces in pipes of bamboo, and grain and other vegetables are cultivated upon them. On an island called *Amoy*, on the coast of this province, is a vast rocking stone, of 40 tons weight, moveable by the slightest touch. Opposite to the coast, also, is the island of *Formosa*, 90 leagues in length and 30 in breadth.—The next province northward on the eastern coast is called *Tche-Tchiang*. Like the rest of China, it is amazingly commercial. It is remarkable for its rich embroidered silks, its timber, its forests of bamboo, its salt works upon the coasts, its mushrooms, hams, and vegetable tallow. A great part of the province has been won from the sea, as Holland was by the Dutch. It is guarded by immense mounds from the fury of the waves; and these mounds remain as stupendous marks of the industry of this most populous nation. They far exceed the similar dykes of Holland, as they have a much more powerful ocean to resist than that which assails the coast of the European low countries.

The next province northward is called *Kyang-Nan*, near the northern boundary of which is the great and rapid river *Whang-ho-hoo*. Among the curiosities of this province is said to be the worm that fabricates not the wild silk worms.

170  
 Wild silk worms.

the



171 Northern boundary of China.

172 Climate.

173 Polygamy of the Chinese.

174 Chinese government.

Asia. the common silk, but that mentioned by Pliny, which he and the ancient writers believed to be the only species of that beautiful production. Pliny represents silk as a vegetable, combed from the leaves and branches of trees. His error is not surprising; for the wild worms of this province, which resemble caterpillars, spin their webs on shrubs and bushes, and furnish as great quantities as the domestic worms. This silk costs in a manner nothing, and is so strong that the goods made from it are uncommonly lasting.

From hence northward, the Chinese coast is exposed not to the open ocean, but to a gulf, the eastern side of which consists of the peninsula of Korea. In Lat.  $38^{\circ} 12'$  begins the province of Pe-tche-li already mentioned, which in N. Lat.  $30^{\circ}$  takes a north-eastern direction, and on the side of the gulf finishes China Proper, in N. Lat.  $40^{\circ}$ . The capital, Peking, is in this northern part of the empire, about 100 miles from the mouth of the river Pei-ho. The empire ends about 150 miles farther, in Lat.  $40^{\circ} 45'$  where the celebrated wall begins, whose length in a straight line is 700 or 800 miles, and including its windings and ascents over craggy mountains, or descents into deep valleys, may be estimated at double that length. It was intended as a bulwark against the invasions of the Tartars on this most accessible side of the empire; but this purpose it has never successfully fulfilled.

The climate of China is liable to severe vicissitudes of heat and cold. The heat is powerful during the summer, because a great part of the country is in a southern latitude, and because its great extent does not admit of its being cooled by breezes from the sea. At the same time, its vicinity to Siberia on the north, and to the elevated country of Tartary on the west, the mountains of which are covered with perpetual snow, expose it to a degree of cold in winter greater than what is known in the southern parts of Europe. It is also to be remarked, that the Chinese rivers, especially towards the northern parts of the empire, have a far more rapid current than those of either peninsula of India: the reason is, the country of China is itself much more elevated than India. It rises far more suddenly from the Pacific ocean than India does from its own seas. Hence it is enabled to oppose a more powerful front to the waters which wash its coasts, and which, impelled by the trade winds, would otherwise very rapidly encroach upon the land in this quarter of the globe.

In China, domestic life is undoubtedly upon a worse footing than in the Indian peninsulas. The Hindoos who have not become Mahometans are monogamists; and we have seen that the same law prevails among the Birmans and the other nations of the eastern peninsula. But in China polygamy has always been allowed. This necessarily produces an unsocial mode of living, and that jealous seclusion of one half of the human species which uniformly attends the existence of such a law. It is not improbable, however, that the permission of polygamy, accompanied, as it is in China, by a law of succession, which admits of right of primogeniture, but divides the whole property of the parents equally among the children, may contribute in no small degree to the production of the crowded population that is found to exist in this empire. The luxury and sensuality of rich men is thus directed into a

particular channel. Instead of becoming ostentatious and magnificent in their dress, equipage, and houses, they are led to expend their wealth in supporting and rearing up very numerous families.

The structure of the Chinese government perhaps deserves even more attention from philosophers than it has hitherto obtained. They acknowledge in their emperor absolute power in the most unlimited degree. From the nature of human affairs, however, it is evident that this power can be directly exerted over only a few individuals of the immense society of which he is the head. The people at large must necessarily be governed by delegated authority; and the value of the constitution of the state, or of the mode of government, must depend upon the manner in which a selection is made of those magistrates to whom the imperial power is intrusted. The Chinese emperor, like other Asiatic princes, will naturally be led to pass much of his time in the luxury of his palace among eunuchs and women. Were the nomination of the magistrates of the empire altogether intrusted to such a man, it is evident that the administration of affairs would speedily go into confusion, and usurpation and anarchy prevail. This, however, rarely occurs; and it is the peculiar nature of the Chinese government to reconcile despotism with a regular and prudent administration of affairs, and the luxury and weakness of the prince, with fidelity and ability on the part of his ministers. Foreign conquest does not alter this order of things. The strangers speedily coalesce with the vanquished people, and the conqueror submits his arbitrary will to the customs that he finds established among a wealthy and a numerous people. Hence the civilization of China has existed from the remotest antiquity. It has had periods of interruption and of anarchy, during which the nation has submitted to strangers; but these strangers soon ceased to be known as such. The ancient laws of the empire, by the admiration which they excited, subdued the minds of the barbarians, whose arms had proved irresistible.

The ostensible maxim of the Chinese government or constitution is this, that paternal authority is in all situations to be respected and implicitly obeyed; that the emperor is the father of the people, and to be regarded with boundless reverence as such; that all inferior magistrates are to be regarded in the same point of view; and the severities they inflict are to be considered not as the punishment of criminals, but as the chastisement of children intended for their benefit. From the nature of the human character, however, it is evident that this fiction, applied to a Tartarian conqueror recently seated upon the throne, would only go a short way to preserve the tranquillity of the state, and that, even under a long established line of hereditary princes, it would have little effect in restraining the ambition of enterprising individuals, or in preserving the submission of a discontented people. It may operate at times perhaps as a salutary prejudice on the minds of the weak and ignorant, or it may afford a plausible justification of that implicit obedience in the people, and absolute power in the prince, which are established and maintained by more powerful means; but farther its influence can scarcely extend.

The radical principle of the political constitution of China must consist of a more powerful and efficient principle.



Afa.

principle, which appears to be this:—The law, or ancient custom of China, so arranges affairs, that the best informed men in the country, and those whose characters are most unexceptionable, shall at all times possess the power of the state and the administration of public business. Literature there affords the means of advancement; and China affords the singular example of a country governed by its men of letters. In this empire no order of nobility or of magistracy is hereditary. The whole country, however, is ruled by a privileged class of individuals called *mandarins*; and it is upon the mode in which this ruling class is nominated, or selected from the mass of the people, that the peculiarity of the Chinese constitution and its whole value depends. There are two sets of mandarins, the civil and the military, who are employed in these different departments of the public service. Of each department there are six or seven classes or orders of mandarins, ascending above each other in a regular gradation of rank. The son of the lowest person in the state is allowed at certain appointed periods to present himself for trial before the mandarins of his district, either civil or military. If his character is without reproach, and if, after various examinations, his learning or skill in the appointed exercises appear complete, he is admitted to the rank of a mandarin of the lowest order, which makes him a candidate for certain public offices, as the emperor, unless in very singular cases, only confers public employments upon mandarins thus found duly qualified. After a certain time he may present himself for trial in his district before the next superior order of mandarins, and, if received into their number, his rank in society is proportionably augmented, and he becomes a candidate for still higher employments. He may thus ascend by force of talents, and of an unblemished reputation, through all the orders of mandarins, till he is enrolled in the highest class, out of which the ministers of state, governors of provinces, and commanders of armies are appointed. In the different examinations and trials, favour or hereditary interest can give little assistance to the candidate; for no mandarin ever holds an office in the province where he was born; so that the judges cannot be the kindred of the persons who appear before them for examination or trial.

175  
Apparent  
perfection  
of the Chi-  
nese consti-  
tution.

One would almost suppose that such a constitution must be absolutely perfect. The establishment of a hereditary reigning family at its head represses inordinate ambition, and prevents military usurpations by soldiers of fortune. As the emperor possesses the power of appointing any one of the imperial family as his successor, the hazard is avoided of having at any time an idiot or an infant placed at the head of the state. The expence of his court can be of little importance in this mighty empire. The absolute power ascribed to him can do little harm, as he is at all times surrounded by the ablest and most virtuous men of the nation. The manners of the people cannot become corrupted, because vice is not kept in countenance by the bad example of powerful men; as distinction and power can only be attained by persons whose integrity of conduct is proved to the satisfaction of men of advanced age, who have themselves risen to eminence by the accomplishments of their minds and the purity of their lives. It must be difficult, or almost impossible, to disturb the

Afa.

internal tranquillity of such a nation, because the ablest men that it contains are at the head of all affairs; and the power which results from uniting intellectual superiority to the authority of office must evidently prove irresistible. The administration, also, of public business will in general be well conducted, because the inferior mandarins, unprotected by family connexions, will have no means of securing indemnity for ill conduct, and because their ambition will naturally lead them constantly to endeavour to recommend themselves to those of a superior class, whose public approbation affords the only means of obtaining farther preferment. Accordingly, in no country in the world has any government found it practicable to execute and keep in repair such immense public works as are found in China. Their prodigious canals and regular roads, together with the immense public magazines of grain accumulated to guard against any partial or general scarcity, demonstrate this to the satisfaction of every traveller.

Yet this apparently unexceptionable government, which produces a numerous, an industrious, a peaceful, and wealthy people, does undoubtedly contain in a moral or intellectual point of view, some great and radical defect. It is true, that under it men become no worse; but it is also true that they become no better. No improvements are ever made; arts and sciences have remained for ages in the same state; invention is unknown: Imitation, regularity, and routine, pervade every order of society, and lull the human faculties into everlasting slumber. Though the Chinese annals extend to many thousand years of civilization, yet in a few centuries, the Europeans, emerging from barbarism, have been able to surpass them in every science, and almost in all the arts of life. The present Chinese are precisely what their forefathers were 4000 years ago, and should their political arrangements continue for ages to come, there is no reason to believe that they will rise above their present state. With all their literature and all the encouragement they give to it, they do not yet practice alphabetical writing; but having a mark for every separate word, it is necessary for them to spend many years in learning to write and read. Though they have been acquainted with gunpowder from a very remote antiquity, the military art among them is so contemptible, or such is understood to be the feebleness of their character, that it is believed an European army of 100,000 men, would find little difficulty in dethroning their emperor, and seizing the government of the country.

176

Bad effects  
of the Chi-  
nese consti-  
tution.

The imbecility of character, or the stagnation of intellect which takes place in China, cannot be ascribed to religion as among the superstitious Hindoos, for they tolerate all religions: They even admit of no religious establishment, and the greater number of them are supposed, as already mentioned, to be of the same religion with the more vigorous and active Birmans. The weakness of the Chinese, therefore, and want of progress in improvement, is in all probability to be ascribed to the manner in which power and preferment are obtained under their political constitution. In all countries the higher classes of society are apt to be afraid of novelties, because their situation cannot be made better. The lower classes, on the contrary, perceiving

177

The defect  
of the consti-  
tution of  
China.



Afa.

ceiving themselves at the bottom of the wheel of fortune, readily set changes at defiance, and are fond of whatever promises to improve their condition. Hence they applaud and patronize, though frequently to their cost, the fearless, the ambitious, and the contrivers of whatever is bold or uncommon. The higher classes naturally oppose all this, and patronize among their inferiors the qualities of caution, docility, submission, and whatever is farthest from innovation or an impatience of controul. In every society, ambitious men regulate their conduct in the way best calculated to recommend them to those from whom promotion comes. Hence in England, in consequence of the existence in the political constitution of a portion of popular patronage, aspiring individuals have often attempted to recommend themselves to notice by turbulence, and by loud declaration that all was wrong and ought to be altered. But in a society arranged like China, every candidate for preferment must necessarily study to regulate his conduct and manners in the way most acceptable to his superiors, who in that country are a set of wealthy and prudent old men. He will, therefore, like a student on trial for a degree at one of our universities, avoid whatever looks like novelty, rashness, or disrespect for those above him: He will labour to speak as they speak, and to think as they think: thus ambition itself will make him tame and submissive, and the passion for distinction will render him careful to keep in the beaten tract, and to subdue his mind to an unqualified acquiescence in whatever has been long established. A society, whose most vigorous members are thus constantly occupied in subduing their own minds, and reducing them to this passive temper and to a corresponding demeanour, will necessarily possess the character of prudence, languor, timidity, and perpetual old age: It will hate novelty and invention, which will render improvement impossible, because all improvements are new, and the result of a restless spirit. Could the Chinese constitution be reversed; were the first or lowest class of mandarins elected by the multitude, or by persons of moderate wealth; were the second class elected by the first, the third class by the second, and so upwards; it is evident, that the intellectual character of the people would speedily alter, and they would become as restless and enterprising, as they are now passive and stationary. That the happiness of this multitude of people would not by such a change be increased, is undoubtedly very true; that they might even in consequence of it be exposed to many sanguinary convulsions, is also very probable; but their rank in the scale of intelligent beings would be altered, and their importance among nations could be immeasurably increased. Foreigners would cease to be objects of terror to a people ruled by men of an enterprising character! To preserve tranquillity at home, it would be found necessary to have recourse to objects of distant enterprise: the immense population of this empire would enable and compel it to cover all Asia with its colonies; to fill the Indian ocean with its fleets, and the isles with its commercial and political establishments.

178  
Korea.

Adjacent to the north-eastern quarter of China, and opposite to a part of the Chinese coast, is the peninsula of Korea, extending from latitude  $42^{\circ} 50'$  to latitude  $34^{\circ}$ ; bounded on one side by the gulf of Pe-tche-li,

and on the eastern side by the Japanese gulf. Japan extends the whole length of the coast of Korea, and even stretches beyond its southern part. Korea is of an oblong form; about 100 leagues in breadth, and 180 in length. Its inhabitants are a mixed people, and have been conquered at different periods by the Japanese, the Tartars, and the Chinese. The yoke of China, however, is very light, as the Chinese fear, that severe treatment might at some period induce them to unite with the Russians, who have advanced through Siberia towards the Chinese frontiers. The Korea is mountainous, and produces most of the European fruits and forest trees; it was protected by a wall to the north-west, which, however, did not prevent a Tartar conquest, and is now neglected. The government is regular, and the customs and laws resemble those of the Chinese. The natives carry on a great commerce openly with China, and clandestinely with Japan, the Philippine isles, and perhaps Java: They also trade with the Russians to a considerable extent, and procure from them large quantities of furs, which they convey to China, and represent there as the produce of their own country. To facilitate their illicit trade with the Japanese, the latter have ceded to them a small island called *Susima* near their coast. As they possess abundance of European goods, no part of which they purchase in China, they are understood to obtain them by their trade with the Dutch at Batavia.

To the eastward of the Chinese coast, and south of the peninsula of Korea, are several islands called the *isles of Liquejo*. The most considerable is Kintschin, extending north and south between latitude  $26^{\circ} 28'$  and  $25^{\circ} 45'$ . It is about 50 leagues long, and 15 broad; the east and south parts of it are skirted by numberless little isles and rocks. The inhabitants are chiefly Chinese, who fled from the Tartars at the time of the last revolution; they export considerable quantities of cowries of the same species that is found in the Maldive isles: From these shells is prepared a white varnish. They also export a sort of large flat shells, which, when polished, are almost transparent, and are used by the Japanese in their windows instead of glass.

To the eastward of Korea are the isles of Japan; they extend from latitude  $30^{\circ}$  to  $40^{\circ}$  north: their longitude is from  $143^{\circ}$  to  $161^{\circ}$  east. The surrounding seas are stormy and filled with dangerous rocks; the climate is changeable and subject to frequent rains; thunder is frequent, and earthquakes so common, as not to be regarded, unless, which is often the case, they produce dangerous consequences; the summer heat rises in July and August to 100 degrees of Fahrenheit's thermometer, and the cold of winter is proportionably severe; the country is everywhere mountainous, and the people of a mixed race from the neighbouring countries, but possessing a very active character. See JAPAN.

To the north of the wall of Korea and of China, Tartary begins. It is in general inhabited by Tartars in a pastoral state, subject to the present imperial family of China, who are themselves Tartars. This country extends northward to the river Amoor or Saghalien. This river takes its rise from the Kentaiham mountains, about the latitude of  $49^{\circ}$  and longitude  $110^{\circ}$  east from Greenwich; and is here called *Onon*. Its direction is nearly north-east; and at the discharge

of.

Afa.

179  
Liquejo  
isles.180  
Japan.181  
Chinese  
Tartary.182  
The riverSauer's Expedition to  
Russia.



Afa.

of the Nirza, where the city of Nertshinsk is situated, about latitude  $52^{\circ}$  it bears the name of the Shilha. This course it continues to latitude  $52\frac{1}{2}^{\circ}$ , its most northern extremity, where the Tungoose call it *Amoor*, and the Chinese *Sagbaalien Ula* (black mountain river, from the oak forests on the mountains hereabouts, which the Chinese call *blackwood*). From hence it is navigable in vessels of moderate size, having received considerable supplies from the torrents rushing down the eastern and northern mountains, as also from a very considerable river flowing from the south-west, and called the *Argoon*, which discharges itself into the *Amoor*, about 180 miles east of Nertshinsk. In the vicinity of these parts the Russians have several forts. From latitude  $52\frac{1}{2}^{\circ}$  to  $47\frac{1}{2}^{\circ}$  it flows nearly south-east, receiving in its course a number of rivers both east and west. The *Tihukir* has its source from this side of the same mountains as give rise to the *Olekma* and *Aldan*, (both emptying themselves into the *Lena*), and flowing nearly south, joins with the *Silempid*, which flows from the vicinity of the *Ud*; keeping nearly a western course into the *Amoor*. All these rivers are navigable for boats nearly to their source. The country is very mountainous, but the plains and vallies are spacious and fertile: the low country, however, labours under the disadvantage of being subject to inundations and earthquakes, which are very frequent.

No rivers of any importance join the *Amoor* from the east, except the two above mentioned. The *Nonni Ula*, however, a very large river which takes its rise about the latitude of  $51^{\circ}$ , and longitude  $123^{\circ}$ , makes a considerable inland circuit, and empties itself into the *Amoor* at its southern extremity, about the latitude of  $47\frac{1}{2}^{\circ}$ . Another considerable river, the *Ufuri*, loses itself in the *Amoor* nearer its estuary, about latitude  $48\frac{1}{2}^{\circ}$ . It rises from the lake *Hinka*, and has a communication after a short day's journey by land with the sea of Japan. It now flows in its own channel north-west into the sea of *Ochotk*, about the latitude of  $52\frac{1}{2}^{\circ}$ , opposite the island *Saghaalien*. This river is well stocked with fish, and its borders are covered with forests of oak, walnut, birch, and different sorts of pines. The soil is very rich, the climate mild and healthy. The whole course of this great river and its tributary streams is subject to the Chinese, or inhabited by people under their protection. It was discovered by the Russians in 1639 by means of some *Cofacks*: the Russians were delighted with the discovery of a river which report made to cast up gold and silver, and its neighbourhood to abound with the most precious furs, cattle, and fruit: the Russian colonists of Siberia emigrated thither in crowds, and depopulated their former country. They founded a fort in latitude  $53^{\circ}$ , which they called *Albafin*. The Chinese burnt it in 1680, and carried the garrison prisoners to *Pekin*; but it was rebuilt and strongly garrisoned, till it gave such serious cause of jealousy, that the affair was at last terminated in 1689, by a treaty at *Nertshinsk*, upon the river *Indoga*, in the reign of *John* and *Peter*, afterwards surnamed the *Great*, and of *Kang-hi*, emperor of China. Had the Russians obtained the possession of *Amoor*, and of the forests and fertile territory in its vicinity, they might soon have got the command of the sea of Japan and of the coasts of China, by descending the river with their fleets.

Afa.

Even by marching from this river as from a magazine of arms and provisions, they could without difficulty have assaulted the Chinese empire, with an army trained in the discipline and the military tactics of Europe. By the treaty of *Nertshinsk*, however, the Chinese empire was declared to extend as high as Lat.  $56^{\circ} 32'$ . Its western limit is near the lake *Baikal*, at the northern front of the high region of *Tartary*, the greatest part of which also it includes. Beyond this, to the north and west, the territory is claimed by the *Russians*, who have settlements in various situations, and are in a great measure masters of the *Tartar* inhabitants of different tribes. These tribes are apt to become discontented with the *Russian* government; hence great numbers of them have recently emigrated to the Chinese territory upon the river *Amoor*. In the year 1787, there emigrated from the *Russians* no less than 6000 of the tribe called *Yakuti*, with all their cattle and goods, and put themselves under the protection of the Chinese. Thus at present upon the river *Amoor*, a mixed race of Chinese, and of people from all the *Tartar* and *Siberian* tribes, is uniting in a fertile country under the government of China, and will probably form out of their several dialects a new language of their own. The Chinese justly consider them as a valuable advanced guard to their frontiers, and give them every encouragement, by assisting them in the cultivation of grain, and in carrying on trade with *Korea* and other places in their neighbourhood.

Passing to the north of the *Amoor* and of the streams that flow into it, we come to *Siberia*, the proper country of the rein-deer, and of men who pass the winter in holes dug in the earth, to protect them against the severity of the climate. The whole territory inclines, as already mentioned, down toward the polar circle; but the surface of the country is various, and the coasts exhibit some peculiarities. Opposite to the mouth of the *Amoor* is the island of *Sagalien*, inhabited by a peaceable people, little known either to the *Russians* or Chinese. The island is 160 miles long, and 80 broad. It is situated at the mouth of the sea or gulf of *Ochotk*, which has the main land of *Siberia* on the west, and the peninsula of *Kamtshatka* on the east. The *Russians* are settled on both sides of the bay. This peninsula having been visited of late years by different European navigators, has been described at least as minutely as its importance on the map of *Asia* requires. It is in general very mountainous; but a part of it which is level contains a deep rich soil composed of black earth. Firs, common pine, and larch trees of a tolerable size, with birch, poplar, ash, and mountain ash, cover the hills in the middle of the peninsula. The under woods are currants, dog roses, hawthorn, alder, and bushes producing berries. The climate in the southern parts is chilled by the sea breezes, and in the northern by the cold winds from *Siberia*; but in the centre of the peninsula a sheltered valley produces very fine cabbages, potatoes, turnips, carrots, &c. together with buck-wheat and rye. Hemp also grows remarkably well, but there is little necessity for cultivating it, as the *nettle* answers every purpose equally well. The *Kamtshadels* and *Russians* make sewing thread of this last plant, the *nettle*, and fabricate from it their fishing nets, which, if used with caution and properly dried, serve them four or five years; the pro-

183  
Kamtshatka.

cess



Asia. cefs of preparing it is nearly the fame as that for hemp. On a good foil the nettle grows to the height of fix or feven feet; the fibres are much finer, and a thread of equal thicknefs is faid to be stronger, than that made of the beft hemp. The country is very fubject to earthquakes, and has feveral volcanoes and hot fprings.

184  
Aleutan  
ifles.

In this quarter of the globe the coasts of the two great continents of America and of Asia begin to approach each other. From the American coast, oppofite to Kamtschatka, extends to a confiderable diftance into the ocean the peninfula of Alyaska. From the point of this peninfula a fucceffion of iflands called the *Aleutan ifles*, in the form of a crefcent, croffes over to Kamtschatka. Thefe iflands are moft clofely joined where they approach the American continent, and the intervals between them become more confiderable near the Afatic fhore. The concavity of the crefcent is towards the north. The iflands are, in general, uninhabited; but the natives have been fubdued by the Rufians, or rather by the bodies of men who have been fent thither by different trading companies for the purpofes of hunting and fifing. One of the Aleutan iflands called *Oonafhka* is worthy of attention; it is in north latitude  $53^{\circ} 45'$ , and eaft longitude  $193^{\circ} 47'$ . It is very mountainous, and the natives live chiefly by fifing; they are of a middle fize, of a very dark brown and healthy complexion, with round features, fmall nofe, black eyes and hair, the latter very ftrong and wiry; they wear feal fkins, with the hair outward, faftened like a carter's frock; they go bare-footed, unlefs when walking on the rocky beach, when they wear a kind of awkward boots made of the throat of the fea lion, foaled with thick feal fkin, which they line with dry grafs. The men fometimes wear a kind of clothing made of the fkins of birds, with the feathers occafionally outward or inwards; the fkin fide is died red, and ornamented with flaps of leather hanging down to a confiderable length; the seams are covered with thin flaps of fkin, ornamented or embroidered with white deers hair, goats hair, and the finews of fea animals died of different colours; they alfo wear light pantaloons of white leather: the men have their hair cut fhort; the women wear theirs fhort before, combed over the forehead, and tied in a club on the top of the back part of the head. In wet weather or when at fea they wear a drefs formed of the inteftines of fea animals, the bladder of the halibut, or the fkin of the tongue of a whale; it has a hood to cover the head, and is tied clofe round the neck and wrifts, fo that no water can penetrate; it is nearly transparent, and looks well. The men wear a wooden bonnet ornamented with the whifkers of the fea lion and with beads. Their baidars or boats, which are the admiration of travellers from the eaft with which they are navigated, are built in the following manner: A keel eighteen feet long, four inches thick on the top, not three inches deep, and two inches, or fomewhat lefs, at the bottom. Two upper frames, one on each fide, about an inch and a half fquare, and fixteen feet long, join to a fharp flat board at the head, and are about fixteen inches fhorter than the ftern, joined by a thwart, which keeps them about twelve inches afunder. Two fimilar frames near the bottom of the boat, fix inches below the upper ones, about one inch fquare. Round fticks, thin, and about

185  
Their bai-  
dars or  
boats.

fix inches diftant from each other, are tied to thefe frames, and form the fides. For the top thwarts, very ftrong fticks, and nearly as thick as the upper frames, curved fo as to raife the middle of the boat about two inches higher than the fides. There are thirteen of thefe thwarts or beams: feven feet from the ftern is one of them; twenty inches nearer the head is another; a hoop about two inches high is faftened between them for the rower fo fit in; this is made ftrong, and grooved to faften an open fkin to, which they tie round their body, and it prevents any water getting into the boat, although it were funk. This frame is covered with the fkin of the fea lion, drawn and fewed over it like a cafe. The whole is fo extremely light, even when fodden with water, that it may be carried with eafe in one hand. The head of the boat is double, the lower part fharp, and the upper part flat, refembling the open mouth of a fifh, but contrived thus to keep the head from finking too deep into the water; and they tie a ftick from the one to the other, to prevent its entangling with the fea weeds. They row with eafe, in a fea moderately fmooth, about ten miles in the hour, and they keep the fea in a freffh gale of wind. The paddles that they ufe are double, feven or eight feet long, and made equally neat with the other articles.

The women of thefe iflands plait neat ftraw mats, which ferve for curtains and beds; they alfo make baskets, and kindle fires readily by ftrewing the powder of native fulphur upon dry grafs or mofs, after which they ftrike two pieces of quartz one againft the other over it; the fine particles of fulphur immediately blaze like a fafh of lightning, and fet the whole of the dry grafs or mofs in a flame. The whole natives of the Aleutan iflands are held in a ftate of moft miferable flavery by the Rufian hunters, who refide in this remote quarter of the globe, and compel them to hunt and fifh in their fervice. Foxes and marmots are almoft the only animals that the Rufian hunters themfelves can kill; for they are not capable of chafing the fea animals, which require particular agility in governing the fmall leather canoes in which the natives purfue the fea lion, the urfine feal, fea otter, porpoifes, and common feals. The fea lion, called by the Rufians *firootfha*, is the ftrongeft and largeft of the feal kind; it is covered with dark-coloured coarfe hair, which is very thick and long about the neck and foulders; the hinder part is tapering with fmooth fhort hair. The largeft of thefe animals is about eight feet long; they have a fmall white fpot on the temples, which is the only place about them vulnerable by arrows, which hardly pierce the fkin in other parts; but, if poifoned, they penetrate deep enough to deftroy the animal. The flefh of the fea lion is cut into thin fhreds and dried, and is eaten by the Rufian hunters. The urfine feal has a foft downy under fur, refembling brown filk; the largeft of the fpecies are about fix feet long; when very young the fur is of a beautiful fhort gloffy black, which changes to filvery when they grow up, and, when they become old, it is almoft white; the moft valuable fur is that of the fea otter, called in Rufia *mor/koi-bobre*; the largeft are about five feet long, with a rich fur nearly black, interperfed with longer hairs of a gloffy white. From their value the purfuit after them has been fo eager, that their numbers are declining faft. Indeed the deftruction of

Asia.

186  
Oppreffion  
of the Ruf-  
fians.

187  
Sea lion.

188  
Urfine feal.

189  
Sea otter.



190  
Approach  
of Asia and  
America to  
each other.

191  
Tshutski.

192  
Capital of  
Siberia, Ir-  
kutsk.

all kinds of animals that produce valuable kinds of fur has there, of late, been so great, that the trade will probably soon be at an end; and this is the only period at which the natives of these islands, and of the adjoining Asiatic and American coasts, can expect a deliverance from the state of slavery under which they have been reduced by the Russians. From the Alcutan chain of islands the two continents irregularly but rapidly approach towards each other till they come within a distance of 40 miles at Bering straits. At this quarter, the part of Asia that approaches nearest to America, is a peninsula, having the Icy sea on the north and the Pacific ocean on the south; it is inhabited by a tribe called the *Tshutski*, who appear to be the same class of people that inhabit the opposite coast of America. The Tshutski nation or tribe is divided into two distinct branches; the one consists of stationary or fixed inhabitants of the coast; the other are called *Reindeer* or *Wanderers*. Of the stationary part of the tribe the population amounts to about 3000 males; they are industrious and neat workmen, as appears from their boats, lances, arrows, bows, apparel, and utensils, with which they supply the wandering part of their tribe; they dig cellars, in which they keep their supplies of food and oil. Their provisions consist of the dried flesh of sea animals and deer, of roots and berries. They keep the oil of the sea animals in seal skins; they obtain immense quantities of it, which they use for food, fuel, and light; and also, as an article of commerce, with the wandering tribes.

This wandering tribe consider themselves as a very superior and independent race of beings. They call all the nations that surround them old women, only fit to be their servants. Rein-deer are their only riches. These, and the skins of animals that they kill in hunting, they barter with the Russians for kettles, knives, and trinkets; which articles they again exchange with the stationary tribe, for arms dresses, &c.

Of Siberia in general it may be observed, that the Russians have fixed their capital in the neighbourhood of the Baikal lake, near the northern front of the high region of Tartary. It is called *Irkutsk*, and is situated in 103° 46' 45" east of Greenwich, and in N. Lat. 52° 16' 30". It contains 1500 houses, chiefly of wood, twelve stone churches, a cathedral, and two monasteries: besides which, there are several public buildings; an hospital, a public school, a library, and a theatre. The number of inhabitants is about 20,000. The merchants are numerous and affluent, and a considerable trade is carried on with the Chinese. Here the assortments of furs are made which are brought from America and the northern parts of Siberia. There is a glass-house near the Baikal lake, and a distillery, in which 60,000 ankers of spirits are made in a year; there are also salt-works at three springs, which supply the neighbouring country. The people are extremely hospitable to strangers. All kinds of food are cheap, as are spirituous liquors, and home-brewed beer; silks, cottons, linens, furs, and even English cloths, are sold at a moderate price. Many articles of luxury are brought from China, and the country itself supports immense herds of cattle and horses, and produces all the kinds of European grain; the chief disadvantage under which it labours is the intense severity of a win-

ter which lasts during six months of the year. The severity of the winter, and its duration, increase in proportion to the distance from this most southern part of Siberia.

The first of the great rivers of Siberia towards the east that runs into the Icy sea is the *Kovima*, which takes its rise in what are called the *Virchoyanski mountains*, to the westward of the most northerly part of Kamtschatka. It flows in a direction nearly north-east about 1800 Russian versts, each verst being about three quarters of an English mile. Different Russian villages are situated upon it or upon the different streams that fall into it. Of these it may be observed, that the village called *Virchni* is in N. Lat. 65° 28' 25" and E. Long. 153° 24' 30". Seredni, another village upon the same river farther down to the north, is in N. Lat. 67° 10' 14". A third village, containing 70 houses, and a church, called *Neizhni*, is in N. Lat. 68° 17' 14" and E. Long. 163° 17' 30".

To give a correct idea of the climate of these latitudes we shall state the temperature at Virchni, as observed during nine days of the month of November 1786, old stile, by Martin Sauer, secretary to a Russian expedition, sent to attempt to navigate the Icy sea; the observations appear to have been made with a spirit thermometer of Reaumur.

Deg. Wind.		Deg. Wind.	
Nov. 22.		Nov. 26.	
4 A. M.	38½ S. W. light	4 A. M.	39½ S. E.
	airs.	8 ———	40½
6 ———	39¼	12 M.	40½
8 ———	39¼	8 P. M.	40½
12 M.	38½	12 ———	41½
4 P. M.	39 S. S. E.	Nov. 27.	
6 ———	39½	4 A. M.	40½ N. E.
8 ———	39½	6 ———	40½ Calm.
12 ———	40	8 ———	40
Nov. 23.		12 M.	38
4 A. M.	37½	4 P. M.	39
6 ———	36	8 ———	40
8 ———	32	12 ———	40½
12 M.	32 S. E.	Nov. 28.	
4 P. M.	32½	4 A. M.	37½ E. N. E.
6 ———	32½	8 ———	33 S. E.
8 ———	30½	12 M.	32½
12 ———	33	4 P. M.	31
Nov. 24.		6 ———	30½
4 A. M.	34 N.	8 ———	31½
6 ———	35	9 ———	32½
8 ———	36	12 ———	36½
12 M.	35½	Nov. 29.	
6 P. M.	35	6 A. M.	38½ to 39
12 ———	36	Nov. 30.	
Nov. 25.		6 A. M.	35½ S. S. W. lit- tle wind.
4 A. M.	34½ S. W. little wind.	8 ———	33
12 M.	34½ N. W. ditto.	12 M.	31½
4 P. M.	35	4 P. M.	31½
6 ———	36	8 ———	32
8 ———	37	12 ———	32
12 ———	38		

On the 22d, at six A. M. nine ounces of mercury froze in two hours; the earth, the ice of the river, the timber of the houses, &c. cracking with reports equal

195  
Effects  
cold.



Asia.

to those of a musket. On the same evening ten ounces of mercury in a stopped vial, froze in two hours and a half. On the 23d, about ten o'clock A. M. the mercury in a stopped vial thawed, but in the evening of the same day was again quite frozen. On the 26th, in the morning, there was a thick fog, and the earth and the river cracked violently. On the 27th, at nine A. M. a sealed bottle of Astracan brandy (there called *French brandy*) exposed to the frost, thickened very much, but was not frozen. On the 28th, at noon, the mercury thawed, but at half past ten at night it was observed frozen. At 37° it was almost impossible to fell timber (which was as hard as the hatchet) unless it was perfectly dry; and in the greatest severity of the cold, the hatchets, on striking the wood, broke like glass. On coming out of a warm room it was absolutely necessary to breathe through a handkerchief; the body was immediately surrounded by a mist arising from the breath, and this mist consisted of very small nodules of hoar ice. Breathing caused a noise like the tearing of coarse paper or the breaking of thin twigs, and the expired breath was immediately condensed into the fine substance already mentioned. The northern lights were constant and very brilliant; they assumed an amazing diversity of shapes, and might be heard to shoot along.

The vegetable productions of this climate were chiefly the following.

Larch.—This is the chief tree in use for building, firing, &c. and the most plentiful. It is pretty sizeable as far as Virchni, and the country is moderately wooded about 200 versts lower, but the trees very stunted; beyond that they are in clusters on elevated spots of ground to about 30 versts from the Icy sea, where they cease growing, in about the latitude 68° 30'.

Birch extends to a little below Seredni, but very stunted and small trees.

Poplar and asp grow to a moderate size on the islands sheltered by mountains about the source of the Kovima, but do not extend so low down as Virchni.

Mountain ash is plenty as far as Virchni, but very scarce lower down.

Alder and willow have a trunk about 18 inches in circumference, and grow to the height of two fathom, about Virchni. They gradually diminish in size, and cease growing with the larch.

Creeping-cedar, brushwood, black and red currant, rose, and juniper, are met with as low as Neizshni. Brushwood and creeping-willows extend to the Icy sea, but never exceed from six to eight inches. The creeping cedar, or *pinus cembra*, produces a considerable quantity of seeds or nuts in cones, like the common pine; but they ripen only the second year. Immense numbers are collected by the inhabitants; sometimes considerable quantities are found in the squirrels nests in hollow trees; in fact they are the chief food of squirrels and mice. A very pellucid and sweet oil is extracted from these seeds.

Mountain ash berries are gathered, and used to give a pleasant flavour to their drink.

Black and red currants are collected in abundance, and preserved in casks among ice; some are boiled and preserved. The black only extend to about Seredni, but the red continue growing as far as Neizshni.

Cranberry.—These are scarce, and extend no further north than Seredni; they are always preserved raw.

Brusniki, *vaccinium vitis idæa*, whortleberry.—These are very plenty as far as Neizshni, and are preserved raw.

Colubniki are very numerous: they seem to delight in such stony places as are overflowed in the spring. They are very pleasant tasted, of a dark-blue colour, and grow on a low bush exactly resembling a myrtle. They are preserved by boiling.

Maroshka, *rubus chamaemorus*.—These are the favourite berry of the inhabitants, and grow in damp mossy places, particularly near lakes. They are reckoned a certain cure for the scurvy, and are always preserved raw.

Siccha, growing on dry stony places about the mountains, on a creeping species of heath, with short needle leaves; they are very small, black, and stony, are collected in great abundance, and preserved by boiling.

Knezshnitsi, *rubus arcticus*, are scarce, growing about the roots of the alder and currant bushes.

The following animals are found in the neighbourhood of the river Kovima, and are hunted for food or on account of the value of their skins.

Names.	Price of the Skins.
Elk,	2 rubles.
Deer,	1 do.
Bear,	1 do.
White bear,	1 do.
Glutton,	2 to 10 do.
Wolf,	2 to 8 do.
Fox,	1 to 5 do.
Stone fox,	50 copeeks.
Ermine,	5 do.
Lynx,	3 to 10 rubles, according to the length of the hair.
Otter,	8 to 10 rubles.
Sable,	10 do.
Sheep, argali,	1 do.
Hare,	3 to 5 copeeks.
Marmot,	5 to 10 do.
Squirrel,	3 to 5 do.

Most of the kinds of birds known in the northern parts of Great Britain are also found in Siberia at some period of the year. At Neizshni the swallows were observed swarming together under the eaves of the church, chirping very much, particularly on the 2d of August old stile, which is still used in Russia; and on the 3d there was not one to be found, nor had anybody seen them depart. They appear about the 21st of May, and depart between the 2d and 6th of August, never staying beyond the latter date. The red breast remains a day or two longer than the white. The snow bunting, the first bird that appears, is seen about the middle of March, feeding on the seeds of grass on the sandy shores of the river, and about the roots of bushes where the snow is earliest melted by the sun. Different flights follow after each other for about a month; eagles follow close upon them. Swans, geese, and ducks arrive towards the end of April, and continue about the neighbouring lakes and rivers till the beginning of September. The river Kovima is frozen over about the 20th of September, and opens about the 24th of May, when it deluges the low country. At Neizshni, on the 25th of November, the sun

196  
Vegetables  
growing  
near the  
Icy sea.

Asia.

197  
Animals.

198  
Birds.



<sup>199</sup> <sup>Asia.</sup> goes down, and does not rise again till the 1st of January, when it appears above the horizon, and this is the time of the greatest cold.

<sup>199</sup> <sup>Coast of the Icy sea described.</sup> The coast of the Icy sea is moderately high, formed by projecting promontories and shallow bays exposed to every wind except the south. The mountains are covered in different places with snow, which melting, produces small torrents that rush into the sea. The mountains are composed of granite, quartz, and a hard black stone; they produce moss, a kind of vetch the root of which is edible, creeping willow, and birch, not exceeding ten inches in height. Near the mouths of the large rivers the shores are covered with drift-wood, and in every place remains of huts left by different hunters are seen. Upon the shore rein-deer are found pretty numerous; bears, but not white; wolves, foxes, stone fox, wild sheep, and the whistling marmot; the gulls, ravens, hawks, black-headed buntings, snow-larks, a few partridges, geese, ducks, and divers. The productions of the sea itself are very few; some seals, herrings, whales, and a small species of salmon, but no traces of shell-fish of any kind are to be met with. The atmosphere is always cold and chilly, though the thermometer in the middle of July rises  $14^{\circ}$  and  $16^{\circ}$  above the freezing point of Reaumur. The fogs upon this sea are very remarkable, continually hovering above the ice at no great height; sometimes having the same appearance with islands when seen in a haze, and resembling vast columns of smoke. Neither ebb nor flow of the tide is perceived, and the ice is always brackish to the taste.

<sup>200</sup> <sup>Attempt to explore the Icy sea.</sup> This ocean never has been, and, in all probability, never can be fully explored; various attempts, however, have been made by individuals, as hunters, in search of places in which abundance of game may be found, or in search of what are called the *mammoth tusks*:

<sup>201</sup> <sup>Mammoth tusks.</sup> these are the tusks of a species of animal that is now unknown and extinct; but which must once have existed in immense multitudes in Siberia. These tusks are found in great numbers buried under the high sandy shores of rivers at a considerable depth; the spring floods bring them to view by washing away the sand that covers them, and they appear to have been originally buried by similar floods; they are equal to elephants teeth in whiteness, beauty, and value, but very different in their shape, being all bent spirally; the largest are found on the shores of the Icy sea; one is mentioned, which in direct length extended to four feet one inch French measure; when measured along the bending, it was eight feet seven inches and four lines in length; its circumference near the root was 14 inches and 3 lines; the thickest part, which was at 22 inches from the root, was 17 inches and 8 lines; the weight of the whole was 115 lb. avoirdupois. The outside was very brown from its having been exposed to the weather, and it was cracked through the coat or upper stratum about an inch; the inside was firm and very white.

<sup>Sauer's Expedition.</sup> In search of this valuable kind of ivory, which forms an important branch of Siberian commerce, individuals have attempted to penetrate into the Icy sea in the hope of discovering untouched stores upon new islands, or some unexplored continent. With this view one Lachoff made an expedition from the river Yana, with some attendants, in the year 1770, and the following years.

<sup>Asia.</sup> Of this expedition Mr Sauer obtained the following account from Zatai Protodiokanoff, a burgher of a Siberian town called *Yakutsk*, in N. Lat.  $62^{\circ} 1' 50''$ , E. Long.  $129^{\circ} 34'$ . The account is chiefly of importance on account of the savage nature of the unknown region to which it refers, and the extraordinary circumstance of the bones of animals, particularly the rhinoceros, being found in it, which in our times can only inhabit the warmest latitudes. "Protodiokanoff accompanied Lachoff in 1770, from his winter-buildings at the estuary of the Yana, in the month of March, to Swatoi Nofs, the northern promontory of a bay which receives this river.

<sup>202</sup> <sup>Expedition by Russian hunters.</sup> "They saw an immense herd of deer going to the south, and observed that their traces were from the north across the Icy sea. Lachoff resolved, if possible, to find out whence they came; and in the beginning of April, set out very early in the morning, with his sledge drawn by dogs. Towards evening he arrived at an island 70 versts from the promontory, in a due north direction, where he passed the night, and the next day proceeded farther, the traces of the deer serving as a guide. About noon he arrived at a second island 20 versts distant, and in the same direction. The traces coming still farther from the north he continued his route. At a small distance from the second island he found the ice so rugged and mountainous as to prevent his proceeding with dogs. He observed no land; and therefore, after passing the night on the ice, he returned, and with great difficulty, for want of provisions for his dogs, regained Swatoi Nofs. He represented his discovery to the chancery of Yakutsk, and the intelligence was forwarded to St Petersburg. The empress Catharine II. called the islands by the name of the discoverer, and gave him the exclusive right of collecting ivory, and hunting animals in this place, and in any other that he might thereafter discover.

"In 1773 he went with five workmen in a boat to the islands, and continued across straits, where he found the sea very salt, and a current setting to the west. He soon saw land to the north, the weather being pretty clear, and arrived on what he called the *third island*. The shore was covered with drift wood. The land was very mountainous, and seemingly of great extent; but no wood was seen growing, nor did he observe the traces of any human being. He found some tusks of the mammoth, saw the tracks of animals, and returned (without making any other discovery) to the first island, where Lachoff built a hut of the drift-wood, and passed the winter. One of his companions left a kettle and a palma on the third island.

"This was reckoned a discovery of some importance, and the land-surveyor Chvoynoff received orders from the chancery of Yakutsk, to accompany Lachoff to this farthest island, and take an exact survey of the same. In 1775, on the 9th February, he left Yakutsk, and arrived on the 26th March at Ust Yansk Lemovia, or winter huts at the estuary of the Yana. He immediately proceeded across the bay to Swatoi Nofs, which is 400 versts from the discharge of the river in a direction north-north-east. On the 6th May he arrived at the first island, which is 150 versts long and 80 versts broad in the widest parts, and 20 versts in the narrowest. In the middle is a lake of considerable extent, but very shallow, but the borders of which are steep.

The



<sup>203</sup> <sup>Asia.</sup> The whole island, except three or four inconsiderable rocky mountains, is composed of ice and sand; and, as the shores fall, from the heat of the sun's thawing them, the tusks and bones of the mammoth are found in great abundance. To use Chvoynoff's own expression, the island is formed of the bones of this extraordinary animal, mixed with the horns and heads of the buffalo, or something like it, and some horns of the rhinoceros; now and then, but very rarely, they find a thin bone, very straight, of considerable length, and formed like a screw.

"The second island is 20 versts distant from this, low, and without drift-wood; 50 versts in length, and from 20 to 30 versts broad. Here also the tusks and other bones are found; and great numbers of the arctic foxes are to be met with on both. The surface is a bed of moss of considerable thickness, producing a few low plants and flowers, such as grow about the borders of the Icy sea. This moss may be stripped off as you would take a carpet from a floor, and the earth underneath appears like clear ice and never thaws; these spots are called *kaltusae*.

"The straits to the third island are 100 versts across. He travelled along the shore, and on the 21st May discovered a considerable river, near which he found the kettle, palma, and some cut wood, in the same place and situation, as they had been left by Lachoff's companions three years before Chvoynoff's arrival. This river he called *Izarevaia Reka*, in consequence of having discovered it on the 21st of May. The shore was covered with drift-wood, all of it extremely shattered. Ascending to the top of a very lofty mountain, he saw a mountainous land as far as his eye could trace in clear weather, extending east, west, and north. Continuing his route along the coast 100 versts, he observed three rivers, each of which brought down a great quantity of wood, and abounded in fish; and here the nerk, a species of salmon frequenting Ochotsk and Kamtschatka, was in abundance, though not found in the Kovima or Indigirka. On this land he passed the summer, and returned in the autumn to Swatoi Nofs.

"I asked, whether he observed any regular ebb or flow of the tide? He said, 'that he did not observe any remarkable alteration:?' Whether he recollected how the current set? 'He believed to the west:?' Whether the water was salt? 'Yes, and very bitter.' He further observed, that there were whales and belluga, white bears, wolves, and rein-deer. No growing wood was to be seen, and the mountains were bare stone. None of these travellers took any notice of the depth of the water, nor were they acquainted with the nature of tides."

<sup>203</sup> <sup>Opinions of philosophers about the Icy sea.</sup> We account it worth while to take notice of these facts; partly, because no circumstance that can tend to elucidate the general structure of this globe, or point out its different productions, ought to be regarded as unimportant; and partly, because some philosophers have attempted, from the remains of animals which appear to have once inhabited the dreary regions within the polar circle, to infer that these countries must once have possessed a better climate, more favourable to animal life, which must have been altered by some extraordinary change in the astronomical position, or in the general temperature of the earth.

Besides the rivers we have already noticed, Siberia contains many others; the chief of which rise near the northern front of the high region of Tartary, and receive the rest as tributary streams in their passage to the Icy sea; the principal are the Lena, the Jenisea, and the Oby. The description of them all is similar. They flow through a country containing a very trifling population, but which is as varied in its surface and in its mineral productions as any other part of the world: We shall here take notice of the Lena only, as a description of it will afford a sufficient general idea of the rest.

<sup>204</sup> <sup>Rivers of Siberia.</sup> About a hundred miles west-south-west of a small Russian village called *Katbuga Pristan*, the Lena takes its rise from an inconsiderable lake among the mountains of Altai, near the Baikal lake. It flows in a gentle and uninterrupted stream, though here and there impeded by shallows at a late season, to about the distance of 300 miles from its source; when it deepens considerably. The direction is very winding, but pretty uniformly east-north-east to Yakutsk, and nearly north from thence to its discharge into the Icy sea, about the latitude  $71^{\circ} 30'$  and longitude  $127^{\circ}$  east of Greenwich, after a course of 3450 geographical miles. The appearance that it assumes is continually varying. In some places, mountains bound the channel on both sides, clothed to the summits with stately pines; in others they are barren, projecting into the river, and turning its course, taking fantastic shapes, resembling ruins of large buildings, towers, and churches; the chafms overgrown with hawthorn, currant bushes, dog roses, &c. In some places the mountains retreat inland for miles, forming a back ground to extensive plains, and exposing a miserably built town, surrounded with corn fields, gardens, and pasture grounds, with a few herds of cattle grazing: These openings are frequent, at unequal distances of five to forty versts from each other, and are always occupied by villages as far as Olekma, 1800 versts from Katbuga. All beyond is desolate, except a few huts inhabited by convicts who have the charge of horses for the posts, and the towns of Petrofksky, Yakutsk, and Giganak. The best of them is only a collection of huts inhabited by priests and their attendants, officers and Cossacks, who teach obedience, and enforce the payment of tribute from the wandering tribes of Tartars that infest the neighbourhood. The following are the rivers that flow into the Lena.—The Ilga, 170 versts from Katbuga. The Koot, 469 versts from the same place. Very near the estuary of this river is a salt lake, which is very shallow, and works, the property of the present ispravnik of the district, at which one boiling produces 1080 pounds weight of salt. Marakofka, 601 versts from Katbuga. Makarova, 690. Kiringa, 778. Vitima, 1178. This last river flows from a lake east of the Baikal. It is nearly equal to the Lena in width, depth, and extent; and is famous for fables, lynx, fox, ermine, squirrel, and deer. The fables of this river and of the Momo, which falls into it 300 versts from the discharge, are very valuable, and of a superior quality. Numbers of Tungoose travel about here on the chafe. Three versts up this river are the mountains that produce talc. Specimens have been formerly found, 28 inches square, and transparent as glass: What is now found is very small, but perfectly pellucid.

<sup>205</sup> <sup>River Lena described.</sup>

<sup>206</sup> <sup>Rivers flowing into the Lena.</sup>



Asia.

cid. All the windows of these parts are glazed with it. The river Pellidui, 1202 versts from Katlhuga; also famous for the above mentioned animals, and the last place that produces corn. Sparrows and magpies are not seen farther north: they only came here about the year 1780, after the ground had begun to be cultivated. The Nuye, 1475 versts from Katlhuga. The Yerba, 1505. The Patama, 1575. The Oonaghtali, 1595. The Olekina, 1822. The Aldan, 2600. Besides several rivers farther north of no material consequence.

207  
Siberian  
tribes.

The most remarkable of the native tribes of Siberia are the Tungoose, the Yakuti, and the Burati; all of whom appear to have originally descended thither from the southern and more elevated regions of Tartary. To these may be added the Cossacks, whom the Russians have everywhere introduced. The Tungoose wander over an amazing extent of ground, from the mouth of the Amour to the Baikal lake, the rivers Angara or Tungooseka, Lena, Aldan, Yudoma, Mayo, Ud, the sea coast of Ochotsk, the Amicon, Kovima, Indigirka, Alafey, the coast of the icy sea, and all the mountains of these parts, constantly on the look-out for animals of the chase. They seldom reside more than six days in one place, but remove their tents, though it be to the small distance of 20 fathoms; and this only in the fishing season, and during the time of collecting berries. They leave their supplies of dried fish and berries in large boxes, built on trees or poles, for the benefit of themselves and their tribes in travelling during the winter. Berries they dry by mixing them with the undigested food (*lichen*) out of the stomach of the rein-deer, making thin cakes, which they spread on the bark of trees, and dry upon their huts in the sun or wind. They seem callous to the effects of heat or cold; their tents are covered with shamoy, or the inner bark of the birch, which they render as pliable as leather, by rolling it up, and keeping it for some time in the steam of boiling water and smoke. Their winter dress is the skin of the deer, or of the wild sheep, dressed with the hair on; a breast-piece of the same, which ties round the neck, and reaches down to the waist, widening towards the bottom, and neatly ornamented with embroidery and beads; pantaloons of the same materials, which also furnish them with short stockings, and boots of the legs of rein-deer, with the hair outward; a fur cap and gloves. Their summer dress only differs in being simple leather without the hair. They commonly hunt with the bow and arrow; but some have rifle-barreled guns. They do not like to bury their dead, but place the body, dressed in its best apparel, in a strong box, and suspend it between two trees. The implements of the chase belonging to the deceased are buried under the box. Except a forcerer is very near, no ceremony is observed; but in his presence they kill a deer, offer a part to the demons, and eat the rest. They allow polygamy; but the first wife is the chief, and is attended by the rest. The ceremony of marriage is a simple purchase of a girl from her father: from 20 to 100 deer are given, or the bridegroom works a stated time for the benefit of the bride's father. The unmarried are not remarkable for chastity. A man will give his daughter for a time to any friend or traveller that he takes a liking to; if he has no daughter he will give his servant, but

209  
Customs of  
the Tun-  
goose.

not his wives. They are rather below the middle size, and extremely active; have lively smiling countenances, with small eyes; and both sexes are great lovers of brandy. They declare that they know no greater curse than to live in one place, like a Russian or Yakut, where filth accumulates, and fills the habitation with stench and disease.

Asia.

The Yakuti, or Socha, are a Tartar tribe that originally descended into the country of Siberia from the high regions on the south. A nation of Mongals inhabiting a part of the country near China also call themselves *Socha*, and speak the same language as the Yakuti. The Russians discovered them in 1620: they were divided into many tribes, and the dissensions that existed among them contributed to their being subdued. Their number is computed at 50,000 males; but the population is declining. They complain of the oppression of the Russian government, and of late, as already mentioned, many of them have emigrated to the river Amoor, to enjoy the advantages arising from the protection of the milder and more popular government of the Chinese.

210  
Yakuti.

There is perhaps no nation in the world that can exhibit a greater variety with regard to size than the Yakuti. The affluent, whose dwellings are situated about the meadows on the south side of the Virchoyanski chain, are from five feet ten inches to six feet four inches high, well proportioned, extremely strong, and very active; while the indigent inhabitants of the more northerly parts are in general below the middle size, indolent, and of an unhealthy complexion; evidently stunted by the badness of their food, the severity of the climate, and the want of proper clothing. Their wealth consists of horses and horned cattle. The private property of no individual at present exceeds 2000, all species included; formerly, numbers of them possessed 20,000.

211  
Their per-  
sons.

With regard to their capacity of supporting themselves, they are independent. Their only necessities are, a knife, hatchet (or palma), flint and steel, and a kettle; and with these articles the all-providing hand of God sufficiently supplies them, and capacitates them to furnish the other tribes. From the iron ore of the Vilui they make their own knives, hatchets, &c. and of such temperature as baffles the more enlightened art of the Russians. This ore may be called native iron, from the little trouble they have in preparing it. Every utensil and article of dress they make themselves.

212  
Means of  
subsistence.

Tanghra is with them the general name of god, or perhaps of the supreme God; but they have other deities, whose names are in their language descriptive of their attributes. One of these is styled *Aar-toyon*, (or the merciful chief). To him they ascribe the creation, and suppose that he has a wife, whom they call *Kubey Chatoon*, (shining in glory). They are both almighty. Another god, called *Wechfyt*, (the advocate), carries up their prayers, and executes the will of the godhead. He sometimes appears among them, assuming the form of a white stallion, or of any bird, from the eagle to the cuckoo. It is he that intercedes for them, and procures all desirable things. The wife of *Wechfyt* is called *Akfyt*, (the giver). These are their benevolent gods, together with a being whom they adore in the sun. They regard the fire, as containing a peculiar being possessed both of good and evil qualities.

213  
Religion of  
the Yakuti.



Asia.

ties, and to whom they constantly offer sacrifices. Their malevolent aerial spirits are very numerous; they have no less than 27 tribes or companies of them. Their chief they call *Ooloo Toyon*: he has a wife and many children. Sugai Toyon, the god of thunder, is his minister of immediate vengeance. (Sugai signifies a hatchet). The rest they distinguish by the names of different colours. Cattle and horses are sacred to the different spirits whose colours they bear. They reckon eight tribes of spirits inhabiting Mung Taar (everlasting misery). Their chief is called *Asbary Biobo* (the mighty). They have wives, and the cattle sacred to them are quite black: Their departed shamans, or magicians, are supposed to unite to these. They dread greatly an evil goddess, whom they call *Enachfys*, (cowherdess). She damages the cows, inflicts disorders on them, destroys calves, &c. She is frequently honoured with propitiatory sacrifices.

Their magicians, or shamans, are chiefly men, though a few of them are women. Young magicians are instructed by an old professor of the art, who conducts them to the most solitary places of the woods; shews them the favourite spots of the spirits of the air and of the pit, and teaches them to invoke their power, and prevail with them to appear. The magicians have a peculiar dress, consisting of a leather jacket, and an apron reaching from the chin to the knees. The whole is ornamented all over with iron plates, and pieces of iron and brass, hanging, which make a dismal noise when they agitate their bodies, during the fantastic but childish ceremonies which they perform while driving, as they say, the demons out of sick people. They use a tambour in their ceremonies, and are the priests and physicians of the tribe.

214  
Food.

In their roving parties, on the chase or travelling, they only take with them a scanty supply of koumifs, depending on chance for the rest; and should their pursuits prove unfortunate, they find their food in the inner bark of the pines and birch-trees, or the different edible roots. Squirrels are in their estimation very good eating, but their favourite food is the whistling marmot. Of all their provisions, however, koumifs is the most valued; it is formed of mare's milk, collected in large leather buckets, wide at bottom, and narrow at the top; each containing about an anker. Into this a small piece of the stomach of a calf or colt is thrown, and some water mixed with it: it is agitated till it ferments, and acquires an agreeable acidity; and when taken in great quantities it has an intoxicating quality (See KOUMISS). Of this drink every one collects as much as he can; and some of the chiefs obtain more than 500 ankers of it. A day is then fixed upon by each chief to consecrate his stock, which is performed as follows:—A summer hut is built of thin poles, of a conical form, covered with the inner bark of birch, on some extensive meadow. It is ornamented, inside and out, with branches of the birch-tree, and a hearth is made in the centre. Relations and acquaintances are invited to the banquet; but all guests are welcome, of every nation, indiscriminately. The magicians, or shamans, take the head seats; others are seated according to the estimation of their seniority. When the hut is full, the elder shaman rises, and commands one of the Socha that he knows to be qualified (namely, that has not seen a corpse within the month,

215  
Consecra-  
tion of kou-  
mifs.

and that never has been accused of theft, or bearing false witness against any body, which desiles them for ever, and renders them unqualified for this sacred and solemn task), to take a large goblet, called a *tshoron*, which is used to drink out of on solemn occasions, and fill it with koumifs out of the first fymir; then to place himself before the hearth, with his face to the east, holding the tshoron to his breast about two minutes. He then pours koumifs three times on the hot embers, as an offering to Aar Toyon. Turning a very little to the right, he pours three times to Kubey Chatoon; then, to the south, he offers in the same manner to each of the benevolent gods. With his face to the west, he pours three times to the 27 tribes of aerial spirits, and three times to the north to the eight tribes of the pit, and to the manes of their departed forcerers. After a short pause, he concludes his libation by an offering to Enachfys, the cowherdess. The forcerer then turns the man with his face to the east, and commences a prayer aloud, thanking the godhead for all favours received, and soliciting a continuance of their bounty. On concluding his prayer, he takes off his cap, with which he fans himself three times, and cries out aloud, "Oorui" (grant), which is repeated by all present. The elder shaman, then, taking the tshoron, drinks a little, and hands it to his brethren of the same order, from whom it passes to the company as they sit, except such as are defiled. Women are not admitted into the hut; nor are they or the disqualified allowed any of the koumifs out of the first fymir, which they call sanctified, as possessing the power of purifying and strengthening in a divine sense. They all now go out of the hut, and seat themselves on the strewed branches of birches, in half circles, fronting the east. All the fymirs are carried, and placed between the branches of trees stuck in the earth, and they commence drinking; every crescent having their fymirs, tshoron, and presiding shaman who fills the goblet, and pushes it about with the course of the sun. The quantity that they drink is incredible. Tournaments now begin; wrestling, running, leaping, &c.; and if any one carry off the prize in all the achievements, he is esteemed as particularly favoured by the deities, and receives more respect and credit in his testimony than falls to the lot of a common man. When the ceremony is finished, they mount their horses, forming half circles, drinking a parting draught, and wheeling round with the sun's course, ride home. Women attend, and form parties among themselves at some distance from the men, where they drink, dance, &c.

The Yakuti or Socha, in their intercourse with each other, have few atrocious vices. Robberies are seldom committed; they sometimes, indeed, lose their cattle from their straying in these wide countries. If stolen, detection is almost certain, as they relate all their losses at every public meeting; in consequence of which, if the lost beast has been seen, information is given, and it is traced. A thief is not only compelled to make restoration, but to make good all the losses of the other Yakut during the year, whether he has stolen the property or not. If one is accused of having stolen cattle, and eaten or killed them, he must either pay for them, receive a flogging, which is very disgraceful, or take an oath of his innocence, which is administered with so many superstitious solemnities, that innocent persons will.

Asia.

216  
Character.



Asia.

will often rather pay the damages than take the oath. They are very revengeful of insults, and entail upon their progeny the duty of revenge: their gratitude, however, is equal to their resentment; they never forget a benefit; and not only make a return, but recommend to their children to persevere in friendship and gratitude to the benefactors of their parents. They are very obedient to their chiefs and old men. They deliberate in council on all matters of public concern, as the course which each is to take in the chase, &c. The old men are surrounded by the rest, and their advice is implicitly obeyed. A young man gives his opinion respectfully and cautiously; and, even when asked, he submits his ideas to the judgment of the old. They are extremely hospitable and attentive to travellers, and are very inquisitive; they ask questions frequently, but, at the same time, they answer them without embarrassment, and with a considerable appearance of intelligence. They are a vigorous race, accustomed to travel in the severest frosts, and to endure hunger with patience. They are, however, subject to some diseases, particularly rheumatisms, weakness of the eyes, boils, and the itch. The smallpox and measles have also at times proved very destructive amongst them.

277  
Superstitions.

They have a multitude of petty superstitions, independent of their religion. Ravens, crows, and cuckoos, are ominous birds; and, if these perch near their huts, they dread some misfortune, which can only be averted by shooting the birds. On the contrary, eagles and large birds of prey are the foreboders of good, and almost every tribe has its object of veneration, but not of worship, as the eagle, the swan, the stallion, &c. They always take care to make the doors of their huts towards the east; the fire-place is in the middle, with the back of the chimney towards the door; the sides of the hut are furnished with benches and small cabins, which serve for sleeping places, and for sitting on. The men keep upon the south side and the women upon the north. Except the hostess, no woman may present food to a male stranger in front of the fire-place, but must walk round the chimney to present it. They never wash the vessels that contain their food; but, when a dish is emptied, they clean it as well as they can with their fingers, accounting it ominous, or that it forebodes a scarcity, to wash away any part of their food. Their earthen vessels are preserved extremely clean by repeated burnings, as the fire consumes what adhered to the sides. Before eating any thing, they cast a morsel into the fire. Every Yakut has two names, and is only called by the right name, in cases of necessity, to void the search of evil spirits. They never mention the dead, unless allegorically, and forsake the hut in which any one has expired.

218  
Women and marriage.

Sauer's Expedition.

Polygamy is allowed among them, and some have six wives, but the first is respected by all the rest, and they dwell in separate huts: their marriage ceremonies are extremely formal. A young man, who wishes to marry, sends his friends to ask the consent of the bride's father, and what kalym (purchase) he demands; that is, how many horses and cattle, as also the quantity of raw meat, horse flesh, and beef, that he requires for treats and feasts; this they call *kurim*; half of the quantity is always given in presents to the bridegroom by the bride's father, and is called *yrdy*. The daugh-

Asia.

ter's inclinations are always consulted; and, if she does not object, the kalym and kurim are stipulated. The bridegroom kills two fat mares, dresses the heads whole, and the flesh in pieces, and goes with three or four friends to the father of the bride. On his arrival at the hut, one of his friends enters, and places one of the dressed horse's heads before the fire, and returns to his companions without speaking a word. They then all enter the hut; and a forcerer being placed opposite the fire, the bridegroom kneels on one knee with his face towards it, into which butter is thrown; he then lifts up his cap a little, and nods his head three times without bowing his body. The forcerer pronounces him the happy man, and prophesies a succession of happy years, &c. Then the bridegroom rises, bows to the father and mother, and takes his seat opposite the bride's place, but keeps silent. The meat is then brought in, and the father of the bride distributes it among his own friends, but kills a fat mare to treat his new guests. Supper being over, the bridegroom goes to bed; the bride, who has not been present, is conducted into the hut, and to his bed, by some old women, and they sleep together; sometimes, however, the bride does not appear at the first visit. In the morning the friends return home, but the bridegroom remains three or four days. A time is now fixed for payment of the kalym, either at the new or full moon. The kalym and kurim are then carried without any ceremony, and delivered in the presence of many friends, who are feasted, and the bridegroom remains again three or four days, and fixes a time to receive the bride at his own dwelling, which must be new built on purpose; and this also at the new or full moon. All her relations, male and female, with friends and neighbours, sometimes more than a hundred, accompany the bride with her father and mother, taking with them eight or ten *symirs* full of melted butter, and the dressed meat of three mares. They go to the new hut prepared for them; three men are sent to the bridegroom in his old hut, and the greatest drinkers are chosen for this purpose. On entering, the first says, "we are come to see your dwelling, and to fix posts before your door." They then kneel on one knee before the fire: an ayack is filled with kounifs, and handed by two men to the three kneeling; each of whom empties an ayack at three draughts. They then rise and go out, all the company saluting them with one cheer. Three others enter; the first with nine fables, the second with nine foxes, and the third with twenty-seven ermine skins; these they hang on a peg in the chief corner of the hut, and retire. Then a number of women conduct the bride, her face being covered with ermine skins, to the hut; the entrance has a wooden bar placed across it, but of no strength, which the bride breaks with her breast, and enters the hut. She is placed before the fire, holding her hands open before her, into which seven pieces of sticks are put; as also several pieces of butter, which she throws into the fire. The shaman pronounces a blessing; she then rises and is again conducted, with her face concealed all the while, to the new hut, where the cover is taken from her face. The bridegroom enters, and feasts his guests two days; then presents all his relations with cattle, over and above the kalym; which is, however, returned on paying their formal visits, perhaps a year or more afterwards.



<sup>219</sup> <sup>Funerals.</sup> <sup>Asia.</sup> afterwards. When a child is about to be born, the husband is called, and two skilful women, in his presence, assist the delivery. If a son be born, a fat mare is killed on the third day; all the neighbours are invited to supper; the child is rubbed all over with fat, and a name given to it, the more insignificant the better; for an elegant name would only entice the demons to be continually about it. No ceremony is observed if the child be a daughter.

The Yakuti bury a dead person in his best apparel, with his knife, flint, steel, tinder, and some meat, that he may not hunger on the road to the dwelling of souls. Two holes are dug under a tree; a favourite horse of the deceased is killed and buried in one, while the corpse is laid in the other: a fat mare is killed, dressed, and eaten, by the guests; her skin is suspended on the tree, under which the body lies with the head to the west. A magician, playing upon his tambour, invokes the demons to let the spirit of the departed rest in peace; and the ceremony is finished by filling up the grave. If an elder brother die, his wives become the property of the younger; but the wives of a younger brother become free at his death.

<sup>220</sup> <sup>Arts.</sup> Their dress is similar to that of the Tungoose, but more complete. Their principal arts consist of working iron ore, as already mentioned, by means of charcoal, rendering it malleable without any previous process of fusion, and of dressing leather, which they are said to perform with wonderful success, so as to render it completely water-proof, in the following manner: For fymirs or buckets, they take a fresh skinned cow's or horse's hide, and steep it in water a few days, when the hair easily rubs off. It is then hung up till nearly dry, when they lay it in blood until soaked through, and then hang it in a smoky place for a considerable time; of this they make their buckets and soles of boots, &c. The latter are completely water-proof, and the buckets or fymirs even retain oil. The legs of boots they make of colts or calves skins, scraped and rubbed till they be soft, then sewed, steeped in blood, and dried in smoke; afterwards blackened with wood coals, and fat, several times, and smoked again: they are then water-proof. The thread with which they sew their clothes is made of the sinews from the legs of the horse-deer or elk. They are expert archers, and have a plentiful supply of arrows in their quivers. They make considerable quantities of hay, and collect berries which they preserve by boiling. To save their hay, they kill at the beginning of winter the cattle they intend to use for food, and let it freeze, which preserves it fresh and good during the whole of that season.

<sup>221</sup> <sup>Tribe of</sup> <sup>Burati.</sup> Another tribe of Siberians inhabiting the southern parts of the territory, is the Burati. They are divided into a great number of separate small tribes, and are also a race of Tartars. They possess immense herds of cattle and horses. They are not unacquainted with letters, and have lamas or priests, like the inhabitants of the southern parts of High Tartary. There are also various other tribes, such as the Yukagiri, the Tshuvantfi, Chatinfy, &c. who do not seem to differ in their manners and character from those already described. On the whole, however, it appears that the population of Siberia is very trifling. It is great-

<sup>222</sup> <sup>Population</sup> <sup>of Siberia.</sup>

est towards the southern boundary, in the latitudes of the Baikal lake and the river Amoor, where the climate is mildest. To give an idea of the population of the lower or northern part, we shall here state, from the work already quoted, an account of the number of inhabitants from the latitude of 64°, to the extremity of the north coast, and from the river Kovima westward to the Anabara. "The district of Lathiverfk comprehends the rivers Kovima, Alafcy, Indigirka, and Yana, and those that flow into them: The tributary nations are

Yakuti	-	-	2810
Lamut and Tungoose	-	-	742
Yukagiri	-	-	322
Tshuvantfi and Chatinfy	-	-	37

Tribute received 1788, amounts to 4560 rubles for 3911 males.

"The circuit is about 6000 versts in circumference. The district of Giganfk, a town north of Yakutfk, on the Lena, contains one church, two government houses, seven private ones, and 15 huts. It has a mayor (*gorodnitskik*) and his chancery, and court of the district (*leiniboi sud*) and a magistracy, although the merchants are mere trading pedlars, and only two I think in number. Its circuit also is about 6000 versts from the Yana to the Anabara, which divides the governments of Tobolsk and Irkutsk. The tributary nations are

Yakuti	-	-	1449
Tungoose	-	-	489
			1938

Tribute received in 1798, 56 fables, 262 foxes, and 1169 rubles in money.

"The Russians inhabiting both districts, including exiles, &c. do not exceed 750 males."

The Russian inhabitants of the better parts of Siberia, especially towards the west, employ themselves in the cultivation of grain, or as graziers or carriers. They have an excellent breed of horned cattle, with which, as well as with butter, they supply both the northern and eastern districts of the empire. They are wealthy, hospitable, healthy, and clean, and live under no controul of individuals, only paying a trifling sum to the captain of the district for government. The Siberians throughout are more industrious and independent than any Russian peasants, and live far more comfortably. They are making considerable progress in civilization, and this is perhaps, so far as the bulk of the people are concerned, the happiest part of that great empire.

We now return to the territory from which we set out, Grand Tartary, or the elevated level tract which constitutes the central region of Asia. This high country possesses considerable variety of soil and appearance. Towards China is an immense desert forming the boundary of that empire. It consists of sands, that move with the winds like the current of a river. Nature has formed three passages across them by means of three chains of mountains, which, as in Arabia or in Africa, are mixed with pleasant vallies amidst these oceans of sand. Travellers who take any other course are apt to be overwhelmed with the torrents of sand, which are equally dangerous as in the Arabian desert.

<sup>223</sup> <sup>Russians in</sup> <sup>Siberia.</sup>

<sup>224</sup> <sup>Grand Tar-</sup> <sup>tary.</sup>

<sup>225</sup> <sup>Desert of</sup> <sup>Lop, and</sup> <sup>roads</sup> <sup>through it.</sup>



Asia.

The first of these communications is in latitude  $42^{\circ}$  north, to the east-north-east of Pekin; the second to the east of the province of Shen-si; and the third in latitude  $32^{\circ}$ , to the east of Hami, on the frontiers of Thibet. By these roads a safe access was given through the vast Tartarian regions, from the countries bordering on the Caspian sea, and more remotely from Europe itself, to caravans of merchants who had no other way of carrying on commerce with China in the middle ages, before the invention of the mariners compass, and the discovery of the passage round the Cape of Good Hope had laid open an easier mode of communication. It is not wonderful, that when travelling in these dreary solitudes, the imaginations of men should have been haunted and terrified by illusions. Accordingly, Marco Polo, a traveller in the middle ages who passed through the great desert, which he names the *desert of Lop*, says, that during the night, the caravans are terrified with the demons which haunt these horrid sands and dreadful deserts; the travellers must be careful how they stray, for they will imagine themselves called by their names by voices familiar to them, till they are brought to the edge of a precipice, and sometimes they will be entertained with aerial music. These romances reached Europe; and our poet, Milton, makes the lady in Comus, when benighted and bewildered on her way, to speak in the style of them.

————— “ A thousand fantasies  
Begin to throng into my memory  
Of calling shapes, and beck'ning shadows dire,  
And airy tongues, that syllable men's names  
On sands and shores and desert wildernesses.”

Even these deserts, however, are not entirely destitute of inhabitants, as a few Tartars are found upon them, with their horses, asses, and mules.

226  
Soil of Tartary, and inhabitants.

The rest of this high region possesses a considerable variety of soil. In general, however, though it bears abundance of trees and grass, the climate is extremely severe. The summits of all the chains of mountains are covered with perpetual snow, which augments the cold of the adjoining plains. Even in the southern parts of it, in latitude  $31^{\circ} 39'$ , within eight degrees of the burning Calcutta, the cold is frequently found to reach  $29^{\circ}$  below the freezing point, and this even within a dwelling house. This high country, as already mentioned, looks down from its different sides upon Persia, India, China, and Siberia, towards all which it is surrounded by steep precipices of difficult descent, which exclude its inhabitants from holding any easy intercourse with these regions. Southward, however, on the side of India, the mountains appear to be most precipitous, and the approach most difficult. Towards Siberia, on the north, it seems less so, and accordingly it is chiefly in that direction, or by the north-east or south-west, that the Tartars have in different ages approached China or Persia, and through them the southern regions of the Indies. The inhabitants of this lofty territory have in every age possessed the same character, and engaged in the same occupations. They have subsisted in a pastoral state, by means of their flocks and herds, and upon the flesh of such wild animals as they could obtain by the chase. They have, at the same time, been rude, and in general illiterate

Asia.

barbarians, possessing similar manners to their Siberian kindred, whom we have already described, the Tungoose, the Yakuti, and Burati. It is a singular circumstance, however, that in the southern part of this territory, called *Thibet*, a superstition should have established itself, which gives to an established priesthood the whole dominion of the state. What proves in a singular manner the influence of education upon mankind, is this, that the subjects of the lama, or high pontiff of the Tartars of Thibet, are no less unwarlike and unfit to defend themselves against invaders, than the subjects of the high-priest, who in the regions of the west has so long occupied the capital of the Cæsars. This corner, however, of Grand Tartary, must be regarded merely as an exception to the general character of the people, who have at all times displayed the greatest aptitude for military enterprises. From this high region the great conquerors of Asia have descended, and under the names of Moguls, Turks, or Tartars, have repeatedly overrun, and assumed complete dominion over the surrounding civilized nations.

The general history of the great continent of Asia may be stated in a few words. When the civilized nations which occupy the coasts of it on the west, the south, and the east, are well governed; when society is in a proper state, and its powers can be directed with skill and energy for the public protection, Grand Tartary becomes a place of little importance, or is merely regarded as a grazing territory fit for the breeding of cattle, which periodically are brought down to the great markets of the richer countries in which they are intended to be fattened and consumed. The Tartars themselves, divided into an immense multitude of tribes, are easily kept by the intrigues of their more artful neighbours in a state of constant domestic hostility, or they readily submit to the dominion, and engage in the service of the rulers of a better soil and climate, to which they are at all times willing to emigrate.

On the contrary, when the arrangements of society become defective in the surrounding nations; when public institutions are allowed to fall into decay, and when anarchy and weakness of government prevail, the Tartars gradually resume their independence. Being no longer either divided by the arts or overawed by the power of their neighbours, they acquire a contempt for their weakness, and an avidity to possess their riches. On such occasion, if an aspiring chief of a Tartar tribe is able by persuasion or by force to unite under his standard a few neighbouring tribes, he speedily becomes dangerous to the nations in his vicinity, and almost to the human race. By the booty obtained in some successful inroads, he acquires new associates; the hope of plunder brings his whole countrymen to his standard, and the few who are not led by hope, are compelled to follow and obey him through fear. All Tartary is soon in motion, and China, Persia, and India, are desolated and subdued.

That this is a correct account or true theory of the history of Asia, is evident from its present and past state. At present, China, which has repeatedly been conquered by the Tartars, commands them with the greatest ease. The power of the Chinese emperor is uncontrolled in the country of Thibet, which he protects by his arms, and rules by mandarins, his deputies.

227  
Idea of the history of Asia and its revolutions.



Asia.

Asia.

ties. Almost the whole of the high region of Tartary westward to Imaus, which looks down upon the Caspian sea, and northward along the coast of the Amoor, and the Baikal lake, acknowledges his authority. The same appears to have been the case during the third century of the Christian era, when a Chinese general, in the reign of Vou-ti-thi, first emperor of the seventh dynasty, marched as far as the Caspian. A single anecdote will sufficiently point out the authority which the Chinese possessed over Tartary at that period. Mamgo, a Tartar chief, whose horde frequented the skirts of China, having incurred the displeasure of the government of that country, retired with his followers to the banks of the Oxus, and implored the protection of Sapor, the reigning emperor of Persia. The emperor of China claimed the fugitive, and alleged the rights of sovereignty. The Persian monarch pleaded the laws of hospitality, and with some difficulty avoided a war, by the promise, that he would banish Mamgo to the uttermost parts of the west; a punishment as he described it, not less dreadful than death itself. Armenia was chosen for the place of exile, and a large district was assigned to the Scythian horde, on which they might feed their flocks and herds, and remove their encampment from one place to another, according to the different seasons of the year.— Between that period and the present, however, China has been repeatedly desolated by Tartar invasions, though it has always risen from its ruins, and resumed its ancient power and prosperity.

228  
Story of  
Mamgo.  
See Gib-  
bon's *Histo-*  
*ry*.

Thus Asia has been the scene of continual revolutions. At one period the Tartars have been divided and weak barbarians, destitute of arts and of power, and subject to the controul of their civilized neighbours. These neighbours have at the same time been prosperous, commercial, and great. After the lapse of some time, however, the reverse of all this has taken place; the civilized nations have sunk into anarchy; Tartary has become strong; its ferocious tribes have united, and the enterprises resulting from their union have covered the earth with desolation and carnage. Thus the history of Asia has always proceeded in a circle; and it becomes the duty of the philosophical geographer to investigate the causes of this peculiarity, which has attended the human race in so great a portion of the globe. We shall here, therefore, endeavour first to point out those qualities in the character and manners of the Tartars, which have enabled them to vanquish the civilized nations of the earth from China to Germany, for so far their conquests have reached, as the Hungarians and the Turks originally descended from Grand Tartary, as well as the race of princes who now rule the great empire of China. We shall afterwards endeavour to explain the circumstances in the state of society among the eastern nations, which periodically reduce them to degeneracy and political weakness, and prevent their persevering in that career of civilization and of improvement, in which the nations of Europe are now so rapidly advancing, and to which the friends of humanity and of science as yet rather wish than hope a perpetual duration. If we are successful in our investigation of the causes of the revolutions now alluded to, the philosophy of general history will become extremely simple, and mankind will be enabled, from the experience of

229  
Arrangement of the following remarks.

Arrian.

past ages, to distinguish the institutions which contain within themselves the seeds of decay and dissolution, from those which have a tendency to increase the energies of the human character, and to preserve upon the earth the dominion of civilization and of science over barbarism and ignorance.

We formerly remarked, that the human character is formed by its situation, or by the education which it receives. The education, however, of barbarians, or the situation in which they are placed, is almost entirely the result of their physical wants, and of the climate and soil which they inhabit: Hence their character is formed by these circumstances, and is the same in every age. On the contrary, the most remarkable circumstances in the situation and education of civilized men, and those which have the most powerful effect upon their character, arise not so much from the cold or heat of the region in which they are born, or from its comparative fertility or barrenness, as from the civil, religious, and political institutions which have been established in it, and the degree in which the human mind is habituated to the pursuits of an enlightened science, or accustomed to make exertions for the improvement of the various arts of life. Hence we shall find, that although the Tartars always resemble each other, yet in countries of equal fertility and of similar temperature, the Turks or Persians, and the Chinese and Indians, differ widely in consequence of the diversity of their institutions.

230  
Causes of  
diversity of  
character  
among na-  
tions.

Though Grand Tartary, situated in the centre of Asia, and in contact with its great monarchies, is the place from which the revolutions of that continent have usually commenced, this high region must not be considered as the sole country of that barbarous race of people, usually called *Tartars* by the Europeans. We have seen, that kindred tribes inhabit the countries to the northward of China upon the river Amoor; they also occupy the whole length of the habitable part of Siberia, and proceed westward to the Caspian sea, and along the northern shores of the Black sea, to the mouth of the Danube. Thus they range over 110 degrees of longitude. When a movement, however, is once begun in Grand Tartary, it is apt to extend itself in a lesser or greater degree over the whole of these savage regions. Vanquished tribes are driven westward before their conquerors, and precipitated upon others, who in their turn are pressed upon the northern nations of Europe. At other times, the whole barbarous world submitting to the same master, and gathering around his victorious standard, has been known to pour down upon the more wealthy and peaceful nations of the south. In this way were accomplished the great conquests of the Moguls and Tartars, the Turks, and the Huns. A Tartar chief has been known to number 1,500,000 followers in arms, and to make an expedition at the head of 500,000 horse. Zenghis Khan's army usually amounted to 800,000 barbarian cavalry, who trode down the nations in their progress. Considered as a nation of shepherds and of warriors, the following circumstances have in all ages contributed to prepare the Tartar, or as they were anciently called the *Scythian tribes*, for a career of victory.

231  
Extent of  
Tartary.

232  
Causes of  
the Tartar  
victories.  
See Gib-  
bon's *Histo-*  
*ry*, vol. ii.

The corn or the rice which constitutes the ordinary and wholesome food of a civilized people can be obtained only by the patient toil of the husbandman. Some

233  
Their food.  
of



Asia.

of the savages who dwell between the tropics are plentifully supplied with vegetable food by the liberality of nature; but in the climates of the north, and in the sterile plains of Grand Tartary, a nation of shepherds is reduced to depend for subsistence upon their flocks and herds. When animal food is dressed in a certain way, the common association of carnivorous and cruel, probably deserves to be considered in no other light than that of a humane prejudice; but if it be true that the sentiment of compassion is imperceptibly weakened by the sight and practice of domestic cruelty, we may observe, that the horrid objects which are disguised by the arts of European refinement are exhibited in their naked and most disgusting simplicity in the tent of a Tartarian shepherd. The ox or the sheep are slaughtered by the same hand from which they were accustomed to receive their daily food; and the bleeding limbs are served, with very little preparation, on the table of their unfeeling murderer. In the military profession, and especially in the conduct of a numerous army, the exclusive use of animal food appears to be productive of the most solid advantages. Corn is a bulky and perishable commodity; and the large magazines which are indispensably necessary for the subsistence of our troops, must be slowly transported by the labour of men and horses. But the flocks and herds which accompany the march of the Tartars afford a sure and increasing supply of flesh, milk, &c. In the far greater part of the uncultivated waste the vegetation of the grass is quick and luxuriant; and there are few places so extremely barren that the hardy cattle of the north cannot find some tolerable pasture. The supply is multiplied and prolonged, by the undistinguishing appetite and patient abstinence of the Tartars. They indifferently feed on the flesh of those animals that have been killed for the table or have died of disease. Horse flesh, which has in every age and country been proscribed by the civilized nations of Europe and Asia, they devour with peculiar greediness; and this singular taste facilitates the success of their military operations. The active cavalry of Scythia is always followed in their most distant and rapid incursions by an adequate number of spare horses, who may be occasionally used, either to redouble the speed or to satisfy the hunger of the barbarians. Many are the resources of courage and poverty. When the forage round a camp of Tartars is almost consumed, they slaughter the greatest part of their cattle, and preserve the flesh, either smoked, or dried in the sun. On the sudden emergency of a hasty march, they provide themselves with a sufficient quantity of little balls of cheese, or rather of hard curd, which they occasionally dissolve in water; and this unsubstantial diet will support, for many days, the life and even the spirits of the patient warrior. But this extraordinary abstinence, which the stoic would approve, and the hermit might envy, is commonly succeeded by the most voracious indulgence of appetite. The wines of a happier climate are the most grateful present, or the most valuable commodity, that can be offered to the Tartars; and one of the most remarkable examples of their industry consists of the art, already mentioned, of extracting from mares milk a fermented liquor which possesses some power of intoxication. Like the animals of prey, the savages, both of the old and new world, experience the alternate vicissitudes

of famine and plenty, and their stomach is injured to sustain, without much inconvenience, the opposite extremes of hunger and of intemperance.

The nature of their habitations also prepares the Tartars for war. In a country in which agriculture is carried on, the husbandmen are scattered over the face of the soil, and some time must elapse before they can assemble in a body to defend their own confines, or to invade the territories of others. The progress of manufactures and commerce insensibly collects a large multitude within the walls of a city; but these citizens are no longer soldiers; the arts which adorn and improve the state of civil society, corrupt the habits of the military life. The pastoral manners of the Scythians seem to unite the different advantages of simplicity and refinement. The individuals of the same tribe are constantly assembled, but they are assembled in a camp; and the native spirit of these dauntless shepherds is animated by mutual support and emulation. The houses of the Tartars are no more than small tents, of an oval form, which afford a cold and dirty habitation for the promiscuous youth of both sexes. The palaces of the rich consist of wooden huts, of such a size that they may be conveniently fixed on large waggons, and drawn by a team perhaps of 20 or 30 oxen. The flocks and herds, after grazing all day in the adjacent pastures, retire on the approach of night, within the protection of the camp. The necessity of preventing the most mischievous confusion in such a perpetual concourse of men and animals, must gradually introduce, in their distribution of the order and the guard of the encampment, the rudiments of the military art. As soon as the forage of a certain district is consumed, the tribe, or rather army of shepherds, makes a regular march to some fresh pastures; and thus acquires, in the ordinary occupations of the pastoral life, the practical knowledge of one of the most important and difficult operations of war. The choice of stations is regulated by the difference of seasons. In the summer the Tartars advance towards the north, and pitch their tents on the banks of a river, or at least in the neighbourhood of a running stream; but in the winter they return to the south, and shelter their camp, behind some convenient eminence, against the winds, which are chilled in their passage over the bleak and icy regions of Siberia. These manners are admirably adapted to diffuse, among the wandering tribes, the spirit of emigration and conquest. The connexion between the people and their territory is of so frail a texture that it may be broken by the slightest accident. The camp, and not the soil, is the native country of the genuine Tartar. Within the precincts of that camp, his family, his companions, his property, are always included; and in the most distant marches, he is still surrounded by the objects which are dear or valuable, or familiar in his eyes. The thirst of rapine, the fear or the resentment of injury, the impatience of servitude, have, in every age, been sufficient causes to urge the tribes of Scythia boldly to advance into some unknown countries, where they might hope to find a more plentiful subsistence or a less formidable enemy. Even the severity of the climates which they inhabit facilitates their enterprises. In the winter season, the broad and rapid rivers that discharge their waters into the Euxine, the Caspian, or the Icy sea, are strongly frozen; the fields

Asia.

234  
Habitations.

are.



Asia. are covered with a bed of snow; and the fugitive or victorious tribes may securely traverse with their families, their waggons, and their cattle, the smooth and hard surface of an immense plain.

235  
Exercises.

The ordinary exercises of these people prepare them for war. The pastoral life, compared with the labours of agriculture and manufactures, is undoubtedly a life of idleness; and as the most honourable shepherds of the Tartar race devolve on their captives the domestic management of their cattle, their own leisure is seldom disturbed by any servile and assiduous cares. But this leisure, instead of being devoted to the soft enjoyments of love and harmony, is usually spent in the violent and sanguinary exercise of the chase. The plains of Tartary are filled with a strong and serviceable breed of horses, which are usually trained for the purposes of war and hunting. The Scythians of every age have been celebrated as bold and skilful riders; and constant practice had seated them so firmly on horseback, that they were supposed by strangers to perform the ordinary duties of civil life, to eat, drink, and even to sleep, without dismounting from their steeds. They excel in the dexterous management of the lance; the long Tartar bow is drawn with a nervous arm; and the weighty arrow is directed to its object with unerring aim, and irresistible force: these arrows are often pointed against the harmless animals of the desert, which increase and multiply in the absence of their most formidable enemy; the hare, the goat, the roebuck, the fallow-deer, the stag, the elk, and the antelope. The vigour and patience both of the men and horses are continually exercised by the fatigues of the chase; and the plentiful supply of game contributes to the subsistence and even luxury of a Tartar camp. But the exploits of the hunters of Scythia are not confined to the destruction of innoxious beasts; they boldly encounter the angry wild-boar when he turns against his pursuers, excite the sluggish courage of the bear, and provoke the fury of the tiger as he slumbers in the thicket. Where there is danger there may be glory; and the mode of hunting which opens the fairest field to the exertions of valour, may justly be considered as the image and as the school of war. The general hunting matches, the pride and delight of the Tartar princes, compose an instructive exercise for their numerous cavalry. A circle is drawn of many miles in circumference, to encompass the game of an extensive district; and the troops that form the circle regularly advance towards a common centre, where the captive animals, surrounded on every side, are abandoned to the darts of the hunters. In this march, which frequently continues many days, the cavalry are obliged to climb the hills, to swim the rivers, and to wind through the vallies, without interrupting the prescribed order of their gradual progress. They acquire the habit of directing their eye, and their steps, to a remote object; of preserving their intervals; of suspending or accelerating their pace, according to the motions of the troops on their right and left; and of watching and repeating the signals of their leaders. Their leaders study in this practical school the most important lesson of the military art; the prompt and accurate judgment of ground, of distance, and of time. To employ against a human enemy the same patience and valour, the same skill and discipline, is the only alteration which is re-

quired in real war; and the amusements of the chase serve as a prelude to the conquest of an empire.

Asia.

The nature of their domestic government has at all times greatly favoured every attempt of the Tartars towards conquest. The political society of the ancient Germans has the appearance of a voluntary alliance of independent warriors. The tribes of Scythia, distinguished by the modern appellation of *hordes*, assume, on the contrary, the form of a numerous and increasing family; which, in the course of successive generations, has been propagated from the same original stock. The meanest and most ignorant of the Tartars preserve, with conscious pride, the inestimable treasure of their genealogy; and whatever distinctions of rank may have been introduced by the unequal distribution of pastoral wealth, they mutually respect themselves and each other, as the descendants of the first founder of the tribe. The custom, which still prevails, of adopting the bravest and most faithful of the captives, may countenance the very probable suspicion, that this extensive consanguinity is in a great measure legal and fictitious. But the useful prejudice, which has obtained the sanction of time and opinion, produces the effects of truth; the haughty barbarians yield a cheerful and voluntary obedience to the head of their blood; and their chief, or *murfa*, as the representative of their great father, exercises the authority of a judge in peace, and of a leader in war. In the original state of the pastoral world each of the *murfas* (if we may continue to use a modern appellation) acted as the independent chief of a large and separate family; and the limits of their peculiar territories were gradually fixed by superior force, or mutual consent. When, by a coincidence of fortune and of talents, a successful chieftain contrived to unite under his command a great number of separate hordes, with a view to a common enterprise, he found, from their ordinary habits of obedience and subordination, an army ready formed and arranged for action: each tribe or horde followed its own chief, to whose authority it was accustomed to submit. If the chief was taught to obey, the obedience of his horde might, from the habits of the people, be safely relied on. Thus these barbarians have at all times been able to send forth detachments upon distant expeditions, which have acted with all the promptitude of a well disciplined military force, and enabled them at once to push their conquests towards the tropic and polar circle, the Chinese empire and the banks of the Danube.

To these advantages the Tartar chiefs have sometimes added a portion of military skill, according to the state in which it existed in the civilized nations in their neighbourhood. It has been an usual practice among the Chinese to receive into their pay some of the Tartar chiefs, and to use as soldiers considerable bodies of this brave and hardy race of men. These are employed as the cavalry of the Chinese armies, and become a convenient engine in the hands of an artful government, at once to keep Tartary itself in subjection, and to repress every attempt at rebellion among the Chinese themselves, when they at any time happen to become discontented either in consequence of a corrupted and tyrannical administration, or of accidental famine, to which that over-peopled country is exposed. But these Tartar auxiliaries, or tools of power, have sometimes ultimately become very dangerous. When the Chinese princes,

236  
Government.

237  
The Tartars acquainted with the Chinese military arts.



Asia.

princes, trusting to the passiveness of their people, and to the irresistible force of their mercenary troops, have suffered themselves to sink into indolence, and to neglect the administration of affairs, the Tartar chiefs in their pay have sometimes learned to despise their feeble masters, and have turned against them the portion of military knowledge which they had acquired in the Chinese service, adding to it the whole vigour and ferocity which they derived from the habits of their early life. The most celebrated of the Tartar chiefs was the renowned Temujin, or Zinghis, who, in the 13th century of the Christian era, erected a monarchy among his pastoral countrymen, and, in his own person, or by his descendants, subdued the whole civilized nations of Asia. In his youth he was a vassal of the Chinese empire: he was led to invade it by a knowledge of its weakness and of the means of success, at a time when it was distracted by domestic faction, and left exposed in consequence of the revolt of 100,000 Khitans who guarded the frontier. The conquest of the five northern provinces of that empire rendered him more dangerous to other nations. He marched westward, and attacked the flourishing and civilized empire of Carizme, which then existed to the eastward of the Caspian sea. After a battle, in which the sultan of Carizme lost 160,000 of his troops, that prince withdrew into his towns, in the hope of wearing out the barbarians by the length and difficulty of a number of regular sieges. But the foresight of Zinghis had formed a body of Chinese engineers, skilled in the mechanic arts, informed perhaps of the secret of gunpowder, and capable, under his discipline, of attacking a foreign country with more vigour and success than they had defended their own. The Persian historians relate the sieges and reduction of Otrar, Cogende, Bochara, Samarcand, Carizme, Herat, Merou, Nisabour, Balch, and Candahar; and the conquest of the rich and populous countries of Transoxiana, Carizme, and Chorasan. From the Caspian to the Indus, the Tartars ruined a tract of many hundred miles, which was adorned with the habitations and labours of mankind; and five centuries have not been sufficient to repair the ravages of four years.

The right of hereditary succession to the sovereignty of a number of united hordes, together with the revenue, which by their customs, the sovereign was entitled to levy, had a tendency to render them long formidable. Zinghis had originally been raised to power by the admiration of his equals, and the success of his enterprises, under the title of khan. The right of hereditary succession was long confined to the blood of the founder of the monarchy; and at this moment all the khans who reign from Crimea to the wall of China, represent themselves as the lineal descendants of the renowned Zinghis. But as it is the indispensable duty of a Tartar sovereign to lead his warlike subjects into the field, the claims of an infant are often disregarded; and some royal kinsman, distinguished by his age and valour, is entrusted with the sword and sceptre of his predecessor. Two distinct and regular taxes are levied on the tribes, to support the dignity of their national monarch, and of their peculiar chief; and each of those contributions amounts to the tythe, both of their property and of their spoil. A Tartar sovereign enjoys a tenth part of the wealth of his people; and as his own domestic riches of flocks and herds increase

in a much larger proportion, he is able plentifully to maintain the rustic splendour of his court, to reward the most deserving or the most favoured of his followers, and to obtain, from the gentle influence of corruption, the obedience which might be sometimes refused to the stern mandates of authority. The manners of his subjects, accustomed, like himself, to blood and rapine, might excuse, in their eyes, such partial arts of tyranny as would excite the horror of a civilized people; but the power of a despot has never been acknowledged in the deserts of Scythia. The immediate jurisdiction of the khan is confined within the limits of his own tribe, and the exercise of his royal prerogative has been moderated by the ancient institution of a national council. The coroultai, or diet, of the Tartars was long regularly held in the spring and autumn in the midst of a plain, where the princes of the reigning family and the chiefs of the respective tribes may conveniently assemble on horseback, with their martial and numerous trains; and the ambitious monarch, who reviewed the strength, must consult the inclination of an armed people. Thus the rudiments of a feudal government may be discovered in the constitution of the Scythian or Tartar nations; and in all their conquests they have uniformly been disposed in some degree to retain some resemblance of this form of government, by distributing their new territory among their chiefs, to be ruled and divided among their followers in subordination to the head of the state.

One circumstance, however, has always been necessary to the success of Scythian or Tartar conquest, that the neighbouring nations should be in a state of weakness. The Chinese and the Russians are at present the tyrants or masters of the Tartars, who heretofore tyrannized over the world. The Chinese rule them partly by art and partly by force; and the Russians find that they are unable to resist the arts and the military skill of Europe. The population of China amounts to between 300,000,000 and 400,000,000. That of Hindoostan is equal to 100,000,000; and the ancient Persian empire was capable of pouring forth to the invasion of Europe an army amounting, as it is said, to three millions of men. Such nations, possessed of superior arts and means of defence, could not upon their own territory have been vanquished by any number of barbarians that could unite against them, did not some defect exist in their character, or had they not been brought into a state of political weakness by some fault in their government. Such reasoning is natural to modern Europeans, who see the present state of the Tartars with just indifference, as by no means formidable to the peace of the world. It is confirmed by history and experience. We shall therefore proceed to consider the circumstances which have hitherto had a tendency to expose all the Asiatic states to conquest and to ruin.

One circumstance which in most of the Asiatic states has a powerful tendency to produce a permanent inferiority of character in the people, and a constant tendency to anarchy and revolution in the government, arises from the imperfect state of domestic society. In all the countries of Asia that have adopted the Mahometan religion, polygamy is authorized by law, that is to say, besides Arabia, in Turkey, Persia, and Hindoostan, which last contains 10,000,000 of Mahometans. The same practice is also allowed in China,

Asia.

238  
Weakness  
of other  
nations  
necessary  
to the  
success  
of the  
Tartars.

239  
Circum-  
stances  
that  
have  
weak-  
ened  
the  
Asiatic  
states.  
240  
Polygamy.



China, and it has always prevailed among the rude tribes of Tartars. It is probable, that this law upon the whole, facilitates population. It divides between the rich and the poor more equally, that is, in a better proportion to their means, the expence of rearing the future generation, as rich men, who can afford to do so, will naturally be led to have a greater number of children. But at the same time, there can be no doubt that this law must have a powerful tendency to repress the intellectual improvement of the people. The rich in every country dictate the fashions of life; and by this institution a fashion is necessarily introduced of treating women with jealousy, and thus of excluding one half of the species from the ordinary society of the other. Women thus shut up in retirement, must possess illiterate and unimproved characters; they must also be prevented in a great degree from carrying on any part of the common business of life. From these circumstances more evils will arise than are at first obvious. One half of society, instead of being useful, becomes a burden upon the industry of the other. A secluded and unsocial mode of life is introduced, and as the human powers are best improved by the intercourse with society, a considerable difficulty is thrown in the way of the enlargement of our faculties. Besides this, it must happen, that the ignorance and imbecility of one half of the species will affect the other. An Asiatic retires from the management of his business, to the society of an unintelligent and weak being, who neither sees nor knows any thing of the world or its affairs. In such society he must relinquish his reason and his rational faculties, before he can enjoy much satisfaction. In such society, however, he was educated during his first years, and a great part of his time must necessarily be spent. He cannot fly from it to the house of a friend, for no friend can receive him; and he can receive nobody freely into his dwelling, lest his female prisoners should be seen. This at least is the case with all those who live not in spacious mansions with a variety of apartments. In such a state of society, it is impossible that many men can acquire, or long preserve, much zeal for scientific pursuits, or that the improvement of literature and of ingenious arts can be very earnestly cultivated.

These effects of the law which regulates domestic society, appear even to the most careless observer of an Asiatic city. It occupies a large extent of territory, because every family secludes itself from the other. Every house is surrounded by a wall, and stands in an enclosed area: Each family thus fortifies itself as with a rampart against the intrusion of all neighbours. Hence it has happened, that no attempt has ever been made in the cities of Asia to establish a republican form of government, even when the people were driven to despair by the severest oppression. There exists not that rapid communication of sentiment, and that confidence in each other, which takes place where society is more intimately blended, and which leads men to repose such confidence in each other, as to believe that they can act under the mere authority of public pactions or laws, without the interposition of a master. The mode of erecting their dwellings also explains the wonderful stories, told us by the ancient writers, of the immense extent of Babylon and of Nineveh. It also accounts for the great tracts of territory, which in mo-

dern times are occupied by the Asiatic cities. This circumstance also has contributed more than any thing else to expose them to the enterprises of invaders. The extent of their walls in proportion to the population they contain, rendered the defence of them difficult or impossible.

The law of polygamy has also had a very fatal effect upon the Asiatic governments, and has been one of the most ordinary means of introducing anarchy into them. The princes have very numerous families by different women. Each of the female favourites of the reigning monarch attempts to establish her own children in the most advantageous situations. Hence, the Asiatic courts are at all times occupied by an endless tissue of dangerous intrigues. Attempts are often successfully made to inspire an old man with jealousy of his eldest son, the apparent heir. The knowledge of the existence of such attempts, or even of the possibility of their existence, and of the fatal effects which they may produce in a despotic government, disposes all the sons of the prince to watch the conduct both of him and of each other with the utmost jealousy: this jealousy is apt to burst out into open rebellion, and frequently does so. At all events, upon the death of an Asiatic monarch, his numerous sons, whose rivalry, hatred, and jealousy of each other, have hitherto been confined within decent bounds, openly break out into violence. A younger brother knows that he is hated by the elder, who is now become his master. In defence of his own existence, therefore, he is compelled to have recourse to arms, and to obtain a crown or submit to destruction. In this way, the successor of an Asiatic prince has often to begin his reign by struggling against a considerable number of desperate rebellions, and must wade to the throne through the blood of his nearest kindred. As success does not always attend the arms of the elder brother, the law of primogeniture, being frequently violated, loses its importance and estimation in the eyes of the multitude. The royal family itself, covered as its members must be with paricides and crimes, cannot be greatly respected by the people, in whose eyes success and victory become, therefore, the only undoubted titles to obedience. Powerful subjects also, therefore, or enterprising military leaders, are frequently tempted to disregard the claims of the reigning family, and to appeal to the fortune of arms as a title to dominion. When successful, they find a people distracted by civil wars, and by the pretensions of different candidates, ready to acquiesce in any government that can bestow upon them a temporary repose.

Even should a reigning family escape these obvious calamities which lay waste the territories of a nation, and overthrow its prosperity by sanguinary civil contests, there are evils by which the law of polygamy more gradually, though not more certainly, undermines the safety of the state. The founder of a new dynasty is usually an ambitious and artful military chief. His first successors, educated in an active reign, and anxious to secure their dubious authority, usually partake his talents and energy. Time, however, soon sanctifies their right to the throne, though originally founded in usurpation. The monarch, now placed in security, indulges in that luxury to which he is tempted by his situation; and luxury, where the law

Asia.  
241  
Its effects  
on popula-  
tion,

242  
on the cha-  
racter of  
the people,

243  
on the form  
of houses  
and cities,

Asia.

244  
on govern-  
ment.

245  
Produces  
in the  
reigning  
family.

246  
Produces  
usurpations.

247  
Polygamy  
produces  
bad govern-  
ment.



Asia.

law of polygamy exists, has more powerful and dangerous attractions, and is attended with more pernicious effects, than elsewhere. This kind of luxury, above all others, leads to an indolent life, and to the production of an ignorant and unintelligent character. The prince is led to shut himself up among a crowd of eunuchs and women, from whose society he can derive no improvement, and to whose councils and passions he is ultimately led to intrust the direction of the most important affairs of his government. The armies of the state are soon neglected, by a monarch, whose favourites employ every art to inspire him with a disgust of the toils of war, that he may the more easily be retained within the precincts of his palace, and under their management and influence. The provinces are subjected to the most ruinous exactions to gratify their avarice, and every place of public trust comes to be filled by men who undertake not to administer public affairs, but to extort large sums of money from the people, to be conveyed to the favourites that rule within the palace. Thus the state experiences a rapid decay of its population and resources; and if it is attacked from abroad, it has no head to call forth its remaining powers and direct them with vigour and skill against an invader. The population that remains may still be sufficiently ample for the defence of its own territory, and abundance of personal courage may exist among the citizens; but they cannot be arranged or their force rendered effectual, from the want of an active government. This appears to be precisely the situation of the Turks at the present moment. Their first princes, inhabiting the frontier of Europe and of Asia, exhibited, during a much longer period than is usual in the families of Asiatic monarchs, a very considerable degree of spirit and of exertion. But the law which authorizes them to live with a multitude of women, all of whose children are legitimate, gradually produced its natural effect. The later princes have shut themselves up in their palace, and neglected the administration of affairs. The provinces have been wasted; and instead of the numerous people which they once contained, immense forests are rising over the whole territory, and becoming the habitation of wild beasts. The governors of the remoter provinces are aspiring to independence; anarchy prevails in different quarters; and a foreign conquest is only prevented by the jealousy of the neighbouring nations, who cannot agree to whose lot these fine countries shall fall. Yet at this day the Turks are a race of as stout and brave men as their Scythian forefathers. They are equally willing to fly to arms, and sufficient numbers still remain to set every enemy at defiance; but they are not led by those vigorous chiefs who conducted their ancestors from the foot of Imaus, resisted the power of Persia, seized the city of Constantine, and diffused terror over Europe. A man of talents only is wanting to render them still respectable, if not formidable; but their unusual respect for the descendants of so many illustrious princes, has hitherto prevented their government from being seized, and their nation preserved by a bold usurper; while, in the mean time, their sultan, lost in the indolence and voluptuousness of his seraglio, and blinded by his favourites, refuses to come forth and to undertake the direction of the remaining

248  
Instance of  
Turkey.

armies of the state, or to place himself at the head of a warlike people.

This law of polygamy appears to be the single circumstance that has brought about the revolutions which have occurred in China. From the nature of the singular form of government established there, the human mind is indeed preserved in a state of perpetual imbecility, and is prevented from rising in improvement beyond a certain degree; this degree, however, it never fails to attain. It is sufficient to render the nation decidedly superior to their rude neighbours of Tartary; and as Chinese improvement can never advance far, there appears no good reason why it should ever decline or pass away. But the law of polygamy from time to time deranges all their institutions, and the regular march of their government. As they ascribe absolute power to their monarch, and their laws secure tranquillity to the state and complete obedience to his will, he can have no occasion to quarrel with his people, or to disturb institutions which give him the command of as much wealth as his wishes can crave, and as much power as he personally can have any inclination to exert. Accordingly, for some time after a recent conquest, all goes well in China: the monarch is delighted with the submission and tranquillity of his people, the industry and prosperity of the country, and the immense revenue which is placed at his disposal, and which he can have no occasion to use otherwise than in works of public magnificence, generosity, or utility. Speedily, however, this peaceable state of things produces its natural effects. The monarch having nothing to fear, and little to do, resigns himself to pleasure; and that pleasure most probably consists in the kind of indulgence which the law allows and encourages, of collecting around him, and passing his time in the society of, a multitude of beautiful women. Such, however, is the skilful structure of the Chinese government, that it proceeds and prospers without the interference of the prince, who is rather a useful name to prevent military usurpation than an active organ of the constitution. Affairs being in the hands of the most prudent men in the state, who have risen by approved fidelity and talents to the highest rank and trust, are conducted with abundance of care; and the responsibility of all inferior magistrates is enforced. Thus the emperor may be allowed to slumber with secure dignity in his palace: If he interfere not to do harm, the constitution of the state will provide for the management of public business and the prosperity of the people. But matters cannot long rest thus. A weak and ignorant prince who passes his days secluded from the world, amidst eunuchs and women, will not comprehend the value of that constitution at the head of which he is placed; his favourites prevail with him to encroach upon its fundamental maxims; he is induced to distrust those officers who have risen by a gradual progress under the direction of the law to distinction and power, and to confer authority upon individuals to whom the constitution gives no title to receive it. As implicit obedience to magistrates, and above all to the emperor, is a fundamental maxim of Chinese jurisprudence, and inculcated as superior to all other duties, the will of the emperor meets with no resistance: The constitution trusts that he will not attempt to violate it; but

Asia.

249

Polygamy  
ruinous to  
China.



but if he do so, it provides no other remedy than the prayers and entreaties of the highest order of mandarins, which they have been known to employ at the hazard of their lives, and even with the certainty of destruction. As the imperial will, therefore, can in no way be resisted or controuled, when an emperor relinquishes himself to the dominion of the inmates of his palace, the consequences speedily occur which we have already mentioned as resulting from the law of polygamy in other countries. The defence of the state is disregarded; worthless men are raised to the command of armies and provinces; corruption becomes the means of obtaining preferment: the Tartar subjects find out the important secret, that the reins of government are loosely held, that the barriers which protect the treasures of a wealthy nation have fallen into decay, and that these treasures have come to be at the mercy of poverty and courage. Some chief endeavours to unite the shepherds of the west and the north in a common enterprise: His first efforts procure him plunder, if not dominion, and the prospect of his riches procures him new adherents, till at last the hardy cavalry of Scythia are enabled to disperse the feeble and ill-conducted armies of the Chinese; and their leader and his family, seated on the throne of a mighty empire, is gradually led, by similar circumstances, to proceed in the same career, from strength and activity, to weakness, degeneracy, and ruin. The constitution of China, indeed, triumphs over these calamities. The Tartars admire the arts and manners of the vanquished people; and the conqueror is willing to revive and preserve a constitution which preserves the prosperity of the people, while it submits every thing to the will of their master. Had the laws of that empire provided, as in Europe, that the inheritance both of public and private individuals should only pass to their legitimate children by one woman, China might undoubtedly have avoided many of its revolutions. Its princes might have been men of talents or otherwise, according to the ordinary vicissitudes that in the course of nature occur in families; but the possession of talents by the prince is not necessary to the good government of China: it is enough that he interfere not to do positive mischief, and under such a law, every temptation to do mischief would be removed from him.

250  
General  
form of go-  
vernment  
in Asia,

251  
feudal.

Another cause of periodical weakness in Asiatic nations arises from the general form of government that has been there adopted. Excepting in China, the Tartars have in all their conquests been led to establish themselves under a sort of feudal arrangement. In their native country, they were divided and subdivided into tribes and families, under a chief who had led them forth to war and conquest. In their new territories, it was natural for the chief to reward his successful officers with grants of provinces, which they were again to subdivide among their followers, under condition of remaining in subjection to himself, and of being ready on all occasions to attend him in war. These grants, however, were only bestowed upon individuals personally who received them: They were given as the price or pay of military service: They might be recalled at will, like the commission of an officer; and they were never meant to go to the heirs of the favoured chief, though undoubtedly in equal circumstances his heirs would be preferred to others. A govern-

Vol. II. Part II.

ment like this is exposed to two kinds of disorders; the one, arising from exorbitant power acquired by the great vassals; and the other, arising from the too great despotism of the prince.

Under a monarch of great activity and vigilance, the chief vassals of the state, who have received large grants of territory, may be retained in sufficient subjection. He may summon them and their followers frequently to attend his person, and by engaging them in wars under him, may preserve his personal ascendancy over them, by having frequent occasion to change their situations, and to prefer others to the places they occupy. Should his immediate successors, however, not be men of equal talents with himself, or should a disputed succession occur, the greater chiefs will immediately aspire to independence: the empire will fall to pieces, and degenerate into a hereditary aristocracy, in which every chief is engaged in hostility with his neighbours, and in which the people at large, oppressed by a multitude of petty tyrants, can enjoy no repose or prosperity. Such has been the destiny of several of the nations of Asia; and it was also the destiny of Europe after its conquest by the northern barbarians. It is true that the European princes gradually recovered the power that had been wrested from them, and converted into local inheritances by their great nobles. To subdue these nobles, they associated themselves with the populace, with the few merchants, and the industrious part of the nation. They encouraged these people to unite themselves into communities, and to fortify themselves with walls. They established courts of justice, whose regular and equitable procedure gained the affection of the weak, whom they protected, and brought odium upon the violence and despotism of the petty local tyrants of the country. The commercial and industrious part of the community were induced to contribute to the support of the prince, who seemed thus to labour only for their welfare, and to protect them against oppression. By this wealth he was enabled to confirm his power, and to subdue his refractory vassals. By following out these prudent maxims for a few generations, the dominion of law and order, along with the power of the sovereign, were established in the nations of Europe. But nothing of all this can occur in Asia. Power may there be acquired by the violence of sudden conquest, but it cannot be gained by a train of artful policy steadily pursued from father to son during a course of several generations. In consequence, as already mentioned, of the law of polygamy, no sooner does a prince die than one of two things occurs; either a war for the succession ensues among his children by different wives, which consumes the wealth of the people, and augments the power of the nobles, upon whom the candidates for dominion must rely for aid; or, to prevent this calamity, the eldest son of the deceased monarch seizes his younger brothers, and puts out their eyes, or destroys their lives. Thus an example of cruelty and injustice is exhibited, which destroys in the minds of the people every growing sentiment favourable to the establishment of order, and of humane and equitable laws.

On the other hand, it has frequently happened in Asia that the power of the monarch has not been lost by its vassals converting different districts into hereditary possessions. A succession during a few generations

Asia.

252  
Feudal go-  
vernment  
apt to be-  
come aristo-  
cratic.

253

Govern-  
ment by  
viceroys.



Asia.

of active and warlike princes has given leisure for the chiefs of the Tartar tribes to acquire the manners of the nations whom they vanquished, and to sink, like them, into a state of permanent subjection to a sovereign, become too powerful to be resisted. In this case, however, an error exists in the general structure of Asiatic governments, which gradually brings them to decay. The monarch divides his territory into provinces, and over each province he places a governor, or viceroy, whom he appoints and recalls at pleasure. The governor of a province possesses within it the whole power of the master whom he represents; he collects the taxes, and remits them to the capital; he administers justice by himself, or by deputies whom he appoints and removes at pleasure; and lastly, he commands within his district the armies of the state. On a little reflection it will readily be conceived, that a nation governed in this way cannot permanently prosper. An absolute monarch can scarcely fail to be patriotic, because the whole country is his own, and he must regard his people as his property, or as a kind of appendage to his family. He will therefore intend to govern them well, or as advantageously as possible. But the governors whom he places over the provinces must entertain very different sentiments: The state is not their inheritance; they are appointed only for a season; and, like tenants at will, they will endeavour to make the most of their temporary possession, though they diminish the permanent value of the estate. Hence these men are always apt to govern ill, and with a view to make the most of their time and opportunity, they oppress the people by their rapacity. The monarch has no intention to sanction their conduct, but there exists no other means of restraining it than to maintain a perpetual and vigilant inspection over them. If he is not constantly at short intervals travelling into every part of his dominions, and viewing objects with his own eyes, the governors of provinces will take advantage of their situation, to oppress the people, and will endeavour to secure their own safety by corrupting the ministers who are near the person of the prince.

In a government thus constituted, too much is made to depend upon the activity and vigilance of one man. If the monarch relax in his attention, the state at once begins to decay; and even his personal infirmities, his youth, or his old age, produce important effects upon the provinces. When a weak prince happens to succeed to the throne, the decline of the empire becomes visible in a few years; and the most active reign scarcely suffices to repair the injuries which a short period of weak government has occasioned. All these evils are aggravated in Asia by the tendency which the law of polygamy has to introduce into the palace of the monarch a system of seclusion from business, of indolence, and of favoritism.

254  
Viceregal  
government  
adopted in  
the Roman  
empire.

In the ancient Roman empire this practice was adopted of ruling the provinces by temporary governors possessed of unlimited power, and was attended with all the bad consequences which we have here described. From its first establishment, that empire, like an Asiatic monarchy, underwent a gradual progress of decay; and instead of the people becoming gradually more powerful, wealthy, and enlightened, every science and every art, together with the population of the state, declined, till the whole was oppressed and sunk under

the inroads of the northern barbarians. It is a curious circumstance, and well worthy of all our attention, that the progress of modern Europe is altogether the reverse of this. In Asia a monarchy is no sooner established than its decline commences, and it gradually becomes weaker and weaker, till, in the course of a few successions, its overthrow is easily accomplished: whereas in Europe, for some centuries past, every state or monarchy of any tolerable extent, has gradually been waxing stronger and stronger, and is capable of greater exertions in proportion to the time that it has stood. Such, at least, is the case, with regard to the middle and northern states of Europe. The mode in which the government is administered will explain this, when contrasted with that which is adopted in most of the Asiatic states, and which existed in the Roman empire. In Europe the sovereign does not intrust the whole government and administration of affairs in a province to an individual, who is at once to be tax-gatherer, judge, and commander of the military force. On the contrary, instead of portioning out the whole territory of the state in provinces, to be allotted to particular viceroys, a more artificial arrangement is adopted. The business to be done is divided into different branches, and these branches, though sometimes extending over the whole territory, are intrusted by the sovereign to distinct individuals or classes of individuals. Thus an office or officer is established near the person of the prince into which the whole taxes of the nation are ultimately paid. Under this office, or its managing minister, a variety of tax-gatherers are sent throughout the whole country, to collect in the different towns and districts the taxes established by law, and to remit them to the government. These tax-gatherers have no interference in military affairs or in the administration of justice. In like manner, a particular class of persons, properly qualified for the duty to be performed, are appointed to administer justice in the provinces, and to interfere no farther in public affairs. No part of the revenue comes into their hands, and they have no command of the military force of the state. Lastly, the whole military or soldiers likewise form a separate and distinct body. Their officers are all appointed by the prince and his ministers, upon whom they immediately depend, and they have no concern in the collection of the taxes or in the administration of justice. Under a government thus constituted, if a tax-gatherer make an unjust exaction from any of the people, they complain to the judges, who, having no share in the management of the public revenue, and deriving no profit from the oppressions that may be committed in it, are disposed to listen to all complaints, and to do justice against the collectors of the taxes. The judges themselves are kept under controul in a similar way. Not being commanders of the military force or entrusted with the direction of its operations, they can only pronounce decrees, but have no power to execute them. This must be performed by the military, who are a distinct body. They, however, will have no inclination to see the power of judges and lawyers exorbitantly increased, and will revolt from the idea of putting in force decrees which are notoriously unjust, and of which the public disapprove. Thus the people will, in every respect, be assured of protection. The judges will protect them against the tax-gatherers

Asia.

255

Why Euro-  
pean na-  
tions im-  
prove in-  
stead of  
decaying  
like Asiatic  
states.



Afa.

gatherers and the military, who, in their turn, will regard with jealousy the power of the judges. In this way a just and equitable government is maintained. Access is easily had to the prince, who can have no wish to see affairs ill administered. A great nation is governed like a single family, by allowing different duties to its different members, who are prevented from abusing their power. Industry is encouraged by the security of property; and the human mind, unsubdued by oppression, and animated by hope, is led to exert its whole energies in improving its own character and condition. Whereas in Asia, and in all those countries in which governors of provinces are appointed with absolute power to conduct the whole business of administration, every province is converted into a separate empire, in which no redress can be obtained for any grievance. If a tax-gatherer make an undue demand, the citizen can only state his complaint to the employer of that tax-gatherer, the provincial-governor, who is to receive the money that is to be paid. If a soldier do wrong, he can only be complained of to the same governor who is the master and patron of the soldier. If a judge is unjust, it is still to the same individual that the complaint must be carried. Thus no check or controul exists; and if the governor of the province is rapacious and unjust, and has need of unprincipled dependants to support his power, the people must submit to an oppression for which there is no remedy; and the whole state, thus divided into departments and oppressed, must speedily sink into ruin. Commerce cannot flourish where the fruits of industry are not secure; and without commerce those arts cannot prosper, the practice and improvement of which afford some of the best means of enlarging the human faculties."

<sup>256</sup>  
Religions of  
Asia hurtful.

In many parts of Asia, religion is also a great source of national weakness. This arises from two causes, either from its dividing a state into different parties, or from its doctrines being of such a nature as to restrain in too great a degree the activity and improvement of the human mind.

<sup>257</sup>  
Religion in  
some places  
divides the  
state.

Before the Turks subdued the Greek empire, they had been long enough settled in the countries near the Caspian sea, to acquire the religion of a more civilized people. By the time they subdued the country round Constantinople, and at last the capital itself, they were become zealous Mahometans; whilst the nation over whom they established their dominion, consisted of no less zealous Christians. Hence a line of separation was drawn between the conquerors and the conquered, which time has not been able to obliterate. One half of the state consists of masters, and the other of an oppressed people. In other nations the evils of conquest have been temporary, because in a short time the victors and the vanquished, mingling in the ties of affinity and thence of consanguinity, have ceased to be distinguished from each other, and have coalesced into one common people. But in Turkey, to this day, the proud invader is known from the vanquished native. Their respective religions have fixed upon each of them a mark, which has proved as indelible as that by which, in our West India islands, nature distinguishes the negro slave from his European master. Hence the Turks continue to act the part of insolent oppressors

Afa.

to their subjects, the Greeks; while the latter, accustomed to insults and to a sense of inferiority, have acquired the characteristics of slaves, insincerity and cowardice. It is not wonderful, therefore, that the Turkish empire should decay. It not only labours under all the evils attending upon the law of polygamy, and of a government by viceroys called *pachas*; but to these have been added an internal division among the people, which degrades the character of one half of the nation, without conferring any improvement upon the other. The same evil has existed during many centuries in Hindoostan. Before the conquest of it by the Mogul or Tartar princes, they had also embraced the Mahometan faith. Their new subjects, however, the Hindoos, adhered to the religion of their ancestors, with still more obstinacy than the Greek Christians have done against the Turks, and the result has been similar. The Mahometan conquerors, with all the advantages on their side, of victory, of public employment, and royal favour, never amounted to above one-tenth of the population of the country. The great body of the people, therefore, necessarily sunk into a contemptible and degraded condition, which impaired the national strength, and retained society in a violent and unnatural state in which it could not flourish.

We can scarcely consider as religious systems the superstitious of the Siberians and Tartars, or other rude Asiatic tribes. Leaving them out of view, therefore, the religions of Asia are chiefly three: that of Budho, Gaudma, or Fo, which prevails in Ceylon, the farther peninsula of India, China, Japan, and Thibet; the Mahometan religion, which, besides Arabia, is in possession of Turkey, Persia, and partly of Hindoostan; and, lastly, the Gentoo faith, which is adhered to by ninety millions of people in India. Of these, the religion of Budho, Gaudma, or Fo, seems the least pernicious. It is loaded with few ceremonies, so that it cannot greatly occupy the human mind. It is perfectly tolerant, and thus does not positively prohibit intellectual improvement; and its priests are men who voluntarily choose their profession, and, excepting in the sterile country of Thibet, have no interference in the ordinary business of life, and no share in the administration of public affairs. All error is, however injurious to the human intellect, by diminishing its power of discerning truth. Even independent of this general circumstance, the religion of Gaudma has been dangerous in another point of view. It has a book which is of sacred authority, and believed to be the work of inspiration. That book is said to regulate minutely the ordinary affairs of life; the taxes to be paid to the state, and what ought to be accounted just and unjust in the common transactions of men: But an infallible law for the regulation of ordinary affairs is always a great evil, as it renders error and ill government perpetual. Such a book, at the time when it was written, might perhaps be a useful work, and contain many valuable maxims and rules for adjusting all kinds of business, and for the decision of all disputes; but human affairs, to proceed well, must be in a state of improvement, that is, in a state of change to what is better: But such a book has a tendency to oblige the nation that adopts it to stand still, and consequently to fall behind other nations. Hence they have all the

<sup>258</sup>  
Hurtful religious doctrines.

<sup>259</sup>  
Religion of Budho.



Asia.  
260  
Mahometan religion.

chances of falling back into barbarism that affect other nations, while there exists no possibility of their advancing farther in improvement.

The Mahometan law has this speculative advantage over that of Gaudma or Budho, that it suffers not the supreme Intelligence to be likened to a stock or a stone; but its practical character is much more injurious to the world. It not only has an infallible book, which in the countries where it is adopted is regarded as the law of the land for regulating the decision of controverted causes in all courts of justice, but enjoins to its followers the observance of a number of daily ceremonies, consisting of prayers and washings at stated intervals, which tend to fix down superstition upon the human mind. In addition to these, its extreme intolerance has a tendency to render the intellectual improvement of the people that have once adopted it extremely difficult, while the sanction that it gives to the law of polygamy, at once places private society on a defective footing, and ensures the bad government of the state.

261  
Gentoo religion.

The most pernicious of all the religions of Asia, however, appears to be the Gentoo superstition, or the religion of the natives of Hindoostan. It does not indeed authorize polygamy, nor does it sanction the persecution of those who believe in other religions; but in every other respect, it is most evidently ruinous to the vigour of the human character. It fills the mind with all the idle tales and superstitions of an absurd polytheism. It enjoins an endless variety of rites and purifications; and under its influence a morsel of bread cannot be eaten, or a cup of water tasted, without the utmost caution, that it have not come into contact with impure hands or impure vessels. The division of the people into hereditary casts, of different degrees of dignity according to their respective employments, none of which casts can intermarry, or even eat or drink together, completely insulates every class of inhabitants; and by fixing them down to hereditary occupations, prevents every exertion of talents beyond the sphere in which individuals happen to be born. Religion, or superstitious fear of offending against the rules of his cast, constantly occupies and absorbs the whole mind and faculties of a Hindoo, so as utterly to deprive him of intellectual vigour or courage to investigate the foundations of the notions which place under controul every step of his life. A people thus divided can possess little united strength or energy as a nation, and the feebleness even of their bodily exertions may well suggest the question, Whether superstitious fear and intellectual imbecility fixed down upon a people during a course of ages, has not a tendency to diminish the corporeal powers, and to render the body as feeble as the mind? In justice to the religion of the Hindoos, however, it may be observed, that if it prevent the nation from acquiring great power, it also guards its civilization, or the arts that it possesses, from being entirely lost in consequence of conquests by barbarians. Every Hindoo being bound by his religion to follow the occupation of his father, if a whole cast is not utterly exterminated, the arts which were understood by its members cannot be lost. They are immediately practised anew; they come to be in request, and the cast is employed by society, and multiplied as before.

That we may not appear, however, from a love of system, altogether to deny the effect of physical causes upon the history of the civilized nations of Asia, we shall acknowledge, that the fertility of the soil in these countries in all probability assists the tendency to negligence of management which appears in their governments. In the more barren regions of Europe, it is absolutely necessary that a government act with a considerable degree of caution, and administer justice well, to enable a nation to attain to any tolerable share of power or prosperity. With us, man has many imperious wants, which must be supplied before an individual can contribute any thing to the public. He must at least have food, which can only be extorted from an ungrateful soil by patient and skilful industry. He must also have clothes and fuel. The fertility of the Asiatic soil enables man to obtain food with less labour than in Europe, while the mildness of the climate subjects him to little expence on account of fuel and clothing. Hence in these countries a much less degree of industry is necessary for the support of individuals, and to enable them to contribute something towards the public revenue. Governments, therefore, are not so soon brought under the necessity of repairing their own errors. Abuses are more readily allowed to multiply, and at last can be got quit of with greater difficulty. Add to this, that in a country whose inhabitants could not originally subsist without the exertion of much industry, a more vigorous character is apt to diffuse itself among the people, than in those nations upon whom, in their rude state, the slightest effort of labour conferred abundance, and who have only come to find good management and industry requisite, in consequence of the great multiplication of their numbers.

Asia.  
262  
Influence of physical causes on civilized nations.

Besides the revolutions occasioned by Tartar invasions, several of the nations of Asia experienced a great revolution from the arms of another barbarous race of men, the inhabitants of the peninsula of Arabia. Similar causes to those which have repeatedly given victory to the Tartars, enabled the Arabians to vanquish the neighbouring nations. They also exist in a pastoral state, and are divided into tribes or families. The Arabians, however, have not been accustomed to conquest like the Tartars. Arabia is of trifling extent, when compared to Tartary and its dependencies; its strength being less, it is less likely to be engaged in distant enterprises. Unlike to Tartary, it has always possessed some cities, and a part of the people have connected themselves with the arts and the commerce of the civilized nations around them. Hence something more was necessary to rouse the Arabian nation, and to unite its members in one common enterprise, than the mere love of dominion. The Arabs became conquerors, only because Mahomet was successful in rendering them fanatics; and they subdued the earth, not so much from a desire to possess its riches and its luxuries, as from a zeal to extend the glory of God, and to give the means of salvation to mankind. When their religion had prevailed in all directions, and other nations adopted the same spirit and cause, the Arabians relapsed into their original unimportance, and ceased to be dangerous to the peace of the world.

263  
Arabian conquest.

Of late some of the nations of Asia have undergone subjugation,





Adapted from the original by...

Longitude 30 East from 60 London







Asia  
264  
European  
conquests.

subjugation, and others have been threatened with it, not from the ordinary quarter of Tartary, or from any other race of barbarians, but from the enterprises of the civilized nations of Europe. This new peril has originated from several causes. The discovery of the mariners compass, and the improvements which have occurred in navigation, have brought the nations of Asia, as it were, nearer to those of this north-west corner of the globe, and exposed them in a greater degree to their attacks. The nations of Europe, also from their better government, and from a religion which prohibits polygamy, and which, at least in the protestant states, interferes little in the affairs of this world, and confers no dominion upon its priests, have of late been enabled to make a more rapid progress in the improvement of every art, than was ever formerly done, and among the rest they have improved the terrible art of war.

In the mean time, the civilized nations of Asia have been either standing still as usual, satisfied with their allotted measure of intelligence, or they have been going backward. Thus the relative strength of these two quarters of the world has been greatly altered, and should any remarkable additional improvement in the art of navigation be soon made, it is probable that all Asia will be enslaved by the European nations. Should such an event take place, its first consequences will probably prove unfortunate. Europe will be corrupted, while Asia will not be reformed. Its imperfect governments, however, and its false religions, will be broken up. The superiority of the human character in European countries is so great, and the population of North America is increasing so rapidly, carrying the pursuits of science and the practice of the arts in its train, that there is little doubt the race of Europe must in a few centuries obtain the dominion of the earth. A new era, therefore, is commencing for Asia, the events of which cannot be foreseen. From the short review, however, which we have taken of that great continent, we perceive, and we perceive with satisfaction, that the most beautiful regions of this globe are by no means unfit, as was supposed, for the production of a vigorous and active race of men. The Hindoo is timid and feeble; but it is not his climate which renders him so. In the same climate with Hindoostan, and scarcely divided from it, a vigorous race of men has been found to exist, forming a rising people, eager to emulate the career of civilized and powerful nations. It is the religion of the Hindoo, therefore, that is the cause of his weakness, as the government of China is the cause of the stationary character of its people. Were these causes of feebleness removed, and above all were the art of printing diffused, the nations of the earth would probably by degrees approach nearer to a similarity of mind and talents, than they have hitherto been accounted capable of doing. Even Siberia itself, by the great tracts of fertile land which attention to its inland navigation is capable of laying open, may one day contribute to the general stock of human power and riches. It ought never to be forgotten that this globe is given as a valuable domain or possession to the human race, only in proportion to the degree in which they subdue its native wildness or sterility; and it becomes a fit and laudable habitation for them, according to the degree in which it is improved by cultivation. The rein-deer once wandered in the forests of

265  
Prospect of  
of Asia.

Germany. It cannot now live upon the shores of the Baltic, and is forced to seek a region sufficiently cold for its constitution, within the polar circle and in the neighbourhood of the icy sea. The progress of civilization and of agriculture have accomplished this change in the climate of the north of Europe, and the descendants of Europeans may probably accomplish still greater alterations upon the north of Asia.

*Asia Minor, or Lesser Asia;* the same with NATOLIA. See NATOLIA.

ASLARCHÆ, (termed by St Paul, *Chief of Asia*, Acts xix. 31.) were the Pagan pontiffs of Asia, chosen to superintend and have the care of the public games, which they did at their own expence: for which reason they were always the richest and most considerable men of the community.

ASIDE, in the *Drama*, something said by an actor, which some, or even all the other actors present are supposed not to hear; a circumstance justly condemned as being unnatural and improbable.

ASITO, a town of Italy, in Perugia, and in the Pope's territories. E. Long. 23. 40. N. Lat. 43. 0.

ASLUS, or HORNET-FLY. See ENTOMOLOGY Index.

ASINARA, an island of Italy, on the western coast of Sardinia. E. Long. 8. 30. N. Lat. 41. 0.

ASINIUS POLLIO, a Roman consul and orator, distinguished himself under Augustus by his exploits and his literary works. He is frequently mentioned with praises by Horace and Virgil, and is said to have collected the first library at Rome. He died at Fiescati, at 80 years of age.

ASIONGABER, ESIONGEBER, or EZIONGEBER, a town of Arabia Petraea, on the bay of Eliath, a part of the Arabian gulf: the dock or station for the ships of Solomon and Jeholaphat; an ancient town, mentioned also by Moses. It was afterwards called *Berenice* (Josephus).

ASISIA, or ASSISIA, a town of Liburnia (Ptolemy, Antonine), now in ruins, but exhibiting many monuments of antiquity. It is the *Assesia* or *Asseria* of Pliny. This author, after having specified the Liburnian cities that were obliged to attend the congress or diet of Scardona, adds to the catalogue the free *Asserians*, *immuneque Asseriatæ*; and this people, who created their own magistrats, and were governed by their own municipal laws, were no doubt more rich and powerful than their neighbours.

The vestiges of the walls of Asseria that still remain, are a sufficient proof of this; for their circumference is clearly distinguishable above ground, and measures 3600 Roman feet. The space enclosed by them forms an oblong polygon, and they are built with common Dalmatian marble; but not taken from the hill on which they stand, for that furnishes only soft stone. The walls are invested, both inside and out, with this marble: some of the stones are ten feet long, and they are all of considerable dimensions. The thickness of these fortifications is commonly about eight feet: but at the narrowest extremity, which falls towards the foot of the hill, they are eleven feet thick; and, in some parts, their height still above ground reaches to near 30 feet. An antiquary, or even a simple lover of the fine arts, or of erudition, the Abbé Fortis observes, cannot help wishing at Podgraje (the modern name of Asseria);



Affio  
||  
Aina.

Afferia), that some powerful hand *quicquid sub terra est in apricum proferit*: and such a wall becomes stronger when he reflects, that since the destruction of that city no search has ever been made under ground, with a view to discover any thing curious; and yet these walls without doubt enclose a valuable deposit of antiquities, thrown down in heaps, who knows by what cause; perhaps naturally, by an earthquake, or perhaps by a sudden inundation of barbarians, which is still worse. The gate now demolished, the considerable height of the walls to be seen in several places from without, some pieces of thick walls that still appear levelled to the ground among the bushes, are circumstances which give ground to hope that many costly monuments might be recovered out of these ruins. The magnificence of the remaining wall, and the many pieces of well-cut stone and fine marble scattered over the contiguous fields, afford sufficient proof that both good taste and grandeur once flourished in that country. In the midst of the rubbish which covers the remains of Asseria, the parish church of the little village stands insulated; it is built of broken pieces of ancient ruins, taken as they happened to be nearest, mixed with mutilated inscriptions and fragments of noble cornices.

ASISIO, or ASIRIO, a city of the pope's territories in Italy, situated about 16 miles east of Perugia. E. Long. 13. 35. N. Lat. 43.

ASKELON. See ASCALON.

ASKERON, a place five miles from Doncaster, noted for a medicinal spring. It is a strong sulphureous water, and is slightly impregnated with a purging salt. It is recommended internally and externally in strumous and other ulcers, scabs, leprosy, and similar complaints. It is good in chronic obstructions, and in cases of worms and foulness of the bowels.

ASKRIG, a town in the north riding of Yorkshire. W. Long. 0. 5. N. Lat. 53. 50.

ASLANI, in *Commerce*, a silver coin, worth from 115 to 120 aspers. See ASPER.

ASMONEUS, or ASSAMONEUS, the father of Simon, and chief of the Asmoneans, a family that reigned over the Jews during 126 years.

ASNA, or ESNA, a town in Upper Egypt, seated upon the Nile, believed by some authors to be the ancient Syena, though others say the ruins of it are still to be seen near Assuan. It is so near the cataracts of the Nile, that they may be heard from thence. It contains several monuments of antiquity; and among the rest an ancient Egyptian temple, pretty entire, all painted throughout, except in some places that are effaced by time. The columns are full of hieroglyphic figures. This superb structure is now made use of for a stable, wherein they put oxen, camels, and goats. A little way from thence are the ruins of an ancient nunnery, said to be built by St Helena, surrounded with tombs.—Asna is the principal town in these parts, and the inhabitants are rich in corn and cattle. They drive a considerable trade into Lower Egypt and Nubia, by means of the Nile, and also by the caravans that pass over the desert. The inhabitants are all Arabs, except about 200 Copts, the ancient inhabitants, and a sort of Christians. They are under the government of the Turks, who have a *cadi*, and the Arabs have two

sheriffs of their own nation. E. Long. 31. 40. N. Lat. 33. 15.

ASOLA, a town of the Bresian in Italy, belonging to the republic of Venice. E. Long. 14. 18. N. Lat. 45. 15.

ASOLO, a town of Italy, in the Trevisan, seated on a mountain 17 miles north-west of Trevisan, and 10 north-east of Bassano. E. Long. 12. 2. N. Lat. 45. 49.

ASOPH, a town of Cuban Tartary, in Asia, seated on the river Don, near its mouth, a little to the east of the Palus Mæotis, or sea of Asoph. It has been several times taken and retaken of late years; but in 1739, the contending powers agreed that the fortifications should be demolished; and the town remains under the dominion of Russia. E. Long. 41. 30. N. Lat. 47. 18.

ASOPUS, a river of Phrygia Major, which, together with the Lycus, washes Laodicea, (Pliny).—Another of Bœotia, which running from Mount Cithæron, and watering the territory of Thebes, separates it from the territory of Plataea, and falls with an east course into the Euripus, at Tanagra. On this river Adrastus king of Sicyon built a temple to Nemesis, thence called *Adrasteia*. From this river Thebes came to be furnished *Asopides*, (Strabo.) It is now called *Asopa*. A third Asopus, a river of Peloponnesus, which runs by Sicyon, (Strabo); and with a north-west course falls into the Sinus Corinthiacus, to the west of Corinth.—A fourth, a small river of the Locri Epicnemidii, on the borders of Thessaly, (Pliny); rising in Mount Oeta, and falling into the Sinus Maliacus.

ASORUS, a town of Laconia, (Pausanias); on the Sinus Laconicus, with a port in a peninsula, between Boæ to the east, and the mouth of the Eurotas to the west. The citadel only remains standing, now called by the sailors *Castel Rampano*.

ASOR, or HAZOR, in *Ancient Geography*, a town of the tribe of Judah, to the south-west, on the borders of Ascalon, (Joshua); as also Hafor-Hadata, translated by the seventy *Asor* *Kavn* (id).—Another Asor, Asorus, or Hazor, a town of Galilee; called the capital of all the kingdoms to the north of Palestine. It was taken by Joshua; the inhabitants were put to the sword, and their houses burnt. It was afterwards rebuilt (Judges, 1 Sam.); but remained still in the hands of the Canaanites, though in the lot of the tribe of Naphthali, (Joshua). It lay to the north of the Lacus Samachonites, called in Scripture the *Waters of Merom*, (Josephus).

ASOW, a celebrated and important fortress of Russia, once a place of considerable trade, but now demolished. It was situated in the district of Bachmut, near the place where the Greeks many centuries ago built the city of Tanais, which was very famous for its trade, and underwent many vicissitudes. The Genoese, who settled a trade with Russia soon after the discovery of Archangel by Captain Chancellor, became masters of this place, and gave it the name of *Tana*, or *Caiuna*: but the Tartars, who were very powerful in these parts, seem to have been in possession of it long before; for, as Busching informs us, there are Asow coins yet extant, on which is the name of *Tacktamys's Kan*. From the Genoese it fell into the hands of the Turks, lost its

Afela  
||  
Afow.



Asp  
||  
Aspasia.

its trade, and became an inconsiderable town. In 1637, it was taken by the Cossacks, who defended it against the Turks in 1641, and next year set fire to it, and blew it up. The Turks rebuilt it with strong fortifications. The Russians laid claim to it in 1672, and took it in 1696; but, by the treaty of Pruth in 1711, it was restored to the Turks. In 1736, the Russians became masters of Asow; but by the treaty of Belgrade they were obliged to relinquish it, and entirely destroy the place.

ASP, in *Natural History*, a small poisonous kind of serpent, whose bite gives a speedy but easy death. It is said to be thus denominated from the Greek *ασπίς*, *shield*, in regard to the manner of its lying convolved in a circle, in the centre of which is the head, which it exerts, or raises, like the umbo or umbilicus of a buckler. This species of serpent is very frequently mentioned by authors; but so carelessly described, that it is not easy to determine which, if any of the species known at present, may properly be called by this name. It is said to be common in Africa, and about the banks of the Nile; and Bellonius mentions a small species of serpent which he had met with in Italy, and which had a sort of callous excrescence on the forehead, which he takes to have been the aspis of the ancients. It is with the asp that Cleopatra is said to have despatched herself, and prevented the designs of Augustus, who intended to have carried her captive to adorn his triumphal entry into Rome. But the fact is contested: Brown places it among his vulgar errors. The indications of that queen's having used the ministry of the asp, were only two almost insensible pricks found in her arm; and Plutarch says it is unknown what she died of. At the same time, it must be observed that the slightness of the pricks found in her arm furnishes no presumption against the fact; for no more than the prick of a needle point dipt in the poison was necessary for the purpose.

Lord Bacon makes the asp the least painful of all the instruments of death. He supposes it to have an affinity to opium, but to be less disagreeable in its operation; and his opinion seems to correspond with the accounts of most writers, as well as with the effects described to have been produced upon Cleopatra.

The ancients had a plaster called *δι' ασπίδων*, made of this terrible animal, of great efficacy as a discutient of strumæ and other indurations, and used likewise against pains of the gout. The flesh, and skin or exuvixæ, of the creature, had also their share in the ancient *materia medica*.

ASPA, a town of Parthia, (Ptolemy), now *Ispahan*, (Holstenius). In Ptolemy the latitude seems to agree, being 33°; but whether the longitude does, is a question. E. Long. 51. Lat. 32. 30.

ASPALATHUS, AFRICAN BROOM. See *BOTANY Index*.

ASPARAGUS, SPARAGUS, OR SPARROW-GRASS. See *BOTANY Index*.

ASPASIA of MILETUS, a courtesan who settled at Athens under the administration of Pericles, and one of the most noted ladies of antiquity. She was of admirable beauty: yet her wit and eloquence, still more than her beauty, gained her extraordinary reputation among all ranks in the republic. In eloquence she surpassed all her contemporaries; and her conversation was so entertaining and instructive, that notwithstanding

the dishonourable commerce she carried on in female virtue, persons of the first distinction, male and female, resorted to her house as to an academy: she even numbered Socrates among her hearers and admirers. She captivated Pericles in such a manner, that he dismissed his own wife, in order to espouse her; and, by her universal knowledge, irresistible elocution, and intriguing genius, she in a great measure influenced the administration of Athens. She was accused of having excited, from motives of personal resentment, the war of Peloponnesus; yet, calamitous as that long and obstinate conflict proved to Greece, and particularly to Athens, it may be suspected that Aspasia occasioned still more incurable evils to both. Her example, and still more her instructions, formed a school at Athens, by which her dangerous profession was reduced into system. The companions of Aspasia served as models for painting and statuary, and themes for poetry and panegyric. Nor were they merely the objects, but the authors of many literary works, in which they established rules for the behaviour of their lovers, particularly at table; and explained the art of gaining the heart and captivating the affections. The dress, behaviour, and artifices of this class of women, became continually more seductive and dangerous; and Athens thenceforth remained the chief school of vice and pleasure, as well as of literature and philosophy.

ASPASTICUM, (from *ασπάζομαι*, "I salute,") in ecclesiastical writers, a place, or apartment, adjoining to the ancient churches, wherein the bishop and presbyters sat, to receive the salutations of the persons who came to visit them, desire their blessing, or consult them on business.—This is also called *aspasticum diaconicum*, *receptorium*, *metatorium*, or *mesatorium*, and *salutatorium*: in English, "greeting-house."

ASPECT, in *Astronomy*, denotes the situation of the planets and stars with respect to each other.

There are five different aspects. 1. Sextile aspect is when the planets or stars are 60° distant and marked thus\*. 2. The quartile, or quadrature, when they are 90° distant, marked □. 3. Trine, when 120° distant, marked Δ. 4. Opposition, when 180° distant, marked ∘. And, 5. Conjunction, when both in the same degree, marked ∪.

Kepler, who added eight new ones, defines aspect to be the angle formed by the rays of two stars meeting on the earth, whereby their good or bad influence is measured: for it is to be observed, that these aspects being first introduced by astrologers, were distinguished into benign, malignant, and indifferent; the quartile and opposition being accounted malign; the trine and sextile, benign or friendly; and the conjunction, indifferent.

ASPEN TREE. See *POPULUS*, *BOTANY Index*.

ASPER, in *Grammar*, an accent peculiar to the Greek language, marked thus (´); and importing, that the letters over which it is placed ought to be strongly aspirated, or pronounced as if an *h* were joined with them.

ASPER, or *Aspre*, in *Commerce*, a Turkish coin, three of which make a *MEDINE*.

ASPERA ARTERIA, in *Anatomy*, the same with the windpipe or trachea. See *ANATOMY Index*.

ASPERIFOLIATE, OR ASPERIFOLIOUS, among *Botanists*, such plants as are rough-leaved, having their leaves

Aspasticum  
||  
Asperifoliate.



*Asperifolia* leaves placed alternately on their stalks, and a monopetalous flower divided into five parts.—They constitute an order of plants in the *Fragmenta methodi naturalis* of Linnæus, in which are these genera, viz. *tournefortia*, *cerinthe*, *symphytum*, *pulmonaria*, *anchusa*, *lithospermum*, *myofotis heliotropium*, *cynoglossum*, *asperugo*, *lycopsis*, *echium*, *borrago*: *magis minusve oleraceæ, mucilaginosæ, et glutinosæ sunt.* Lin. In the present system, these are among the pentandria monogynia.

ASPERIFOLIÆ PLANTÆ, rough-leaved plants; the name of a class in Hermannus, Boerhaave, and Ray's methods, consisting of plants which have four naked seeds, and whose leaves are rough to the touch.

In Tournefort's System, these plants constitute the third section or order of the second class; and in Linnæus's Sexual Method, they make a part of the pentandria monogynia.

ASPERITY, the inequality of the surface of any body, which hinders the hand from passing over it freely.—From the testimony of some blind persons, it has been supposed that every colour hath its particular degree of asperity: though this has been denied by others. See the article BLIND.

ASPEROSA, a town of Turkey in Europe; it is a bishop's see, situated on the coast of the Archipelago. E. Long. 25. 20. N. Lat. 40. 58.

ASPERUGO, SMALL WILD BUGLOSS. See BOTANY Index.

ASPERULA, WOODROOF. See BOTANY Index.

ASPHALTITES, so called from the great quantity of bitumen it produces; called also the *Dead sea*; and from its situation, the *East sea*; the *Salt sea*, the *sea of Sodom*, the *sea of the Desert*, and the *sea of the Plain*, in the sacred writings: A lake of Judea.

Many things have been said and written of this famed, or, if they were indeed true, rather infamous lake; such as that it arose from the submerision of the vale of Siddim, where once stood, as is commonly reported, the three cities which perished in the miraculous conflagration, with those of Sodom and Gomorrah, for their unnatural and detestable wickedness: on which account this lake has been looked upon as a lasting monument of the just judgment of God, to deter mankind from such abominations. Hence it is added, that the waters of the lake are so impregnated with salt, sulphur, and other bituminous stuff, that nothing will sink or live in it; and that it casts such stench and smoke, that the very birds die in attempting to fly over it. The description likewise of the apples that grew about it, fair without, and only ashes and bitterness within, were looked upon as a farther monument of God's anger. So likewise the description which many travellers give not only of the lake, but of all the country round about, of the whole appearing dreadful to behold, all sulphureous, bituminous, stinking, and suffocating: and lastly, what hath been farther affirmed of the ruins of the five cities being still to be seen in clear weather, and having been actually seen in these latter times; all these surprising things, and ill-grounded notions, though commonly, and so long, received among Christians, have been of late so much exploded, not only by the testimony of very credible witnesses, but even by arguments drawn from Scripture, that we must give them up as inventions, unless we will suppose the face and

nature of all these things, to have been entirely changed. Those, in particular, of bodies not sinking in the water, and of birds being stifled by the exhalations of it, appear now false in fact. It is true, the quantity of salt, alum, and sulphur, with which it is impregnated, render it so much specifically heavier (Dr Poccocke says one-fifth) than fresh water, that bodies will not so easily sink: yet that author, and others, assure us, they have swam and dived in it; and, as to the birds, we are told likewise, that they will fly over it without any harm. To reconcile these things with the experiments which Pliny \* tells us had been made by Vespasian, is impossible, without supposing that those ingredients have been since much exhausted, which is not at all improbable; such quantities of them, that is, of the bitumen and salt, having been all along, and being still taken off, and such streams of fresh water continually pouring into it, as may reasonably be supposed to have considerably diminished its gravity and denseness. For, with respect to its salt, we are told, the Arabs make quantities of it from that lake, in large pits about the shore, which they fill with that water, and leave to be crystallized by the sun. This salt is in some cases much commended by Galen, as very wholesome, and a strengthener of the stomach, &c. on account of its unpleasent bitterness.

What likewise relates to the constant smoke ascending from the lake, its changing the colour of its water three times a-day, is confidently affirmed by Josephus † and other ancients, and confirmed by Prince Radziville and other moderns, who pretend to have been eyewitnesses of it, is all now in the same manner exploded by others of more modern date, and of at least equal candour. The unhealthiness of the air about the lake was affirmed by Josephus and Pliny, especially on the west: the monks that live in the neighbourhood confirm the same, and would have dissuaded Dr Poccocke from going to it on that account; and, as he ventured to go and bathe in it, and was two days after, seized with a dizziness, and violent pain in the stomach, which lasted near three weeks, they made no doubt but it was occasioned by it; and he doth not seem to contradict them. As to the water, it is, though clear, so impregnated with salt, that those who dive into it come out covered with a kind of saline matter. There is one remarkable thing relating to this lake, generally agreed on by all travellers and geographers, viz. that it receives the waters of Jordan, a considerable river, the brooks of Jabbok, Kishon, Arnon, and other springs, which flow into it from the adjacent mountains, and yet never overflows, though there is no visible way to be found by which it discharges that great influx. Some naturalists have been greatly embarrassed to find a discharge for these waters; and have therefore been inclined to suspect the lake had a communication with the Mediterranean. But, besides that we know of no gulf to corroborate this supposition, it has been demonstrated, by accurate calculation, that evaporation is more than sufficient to carry off the waters brought by the river. It is, in fact, very considerable; and frequently becomes sensible to the eye, by the fogs with which the lake is covered at the rising of the sun, and which are afterwards dispersed by the heat. It is enclosed on the east and west with exceeding high mountains, many of them craggy and dreadful to behold.

Asphaltites.

\* Nat. Hist. lib. v. cap.

† Bell. Jud. lib. v. cap. 5.



Asphaltites. hold. On the north it has the plain of Jericho; or, if we take in both sides of the Jordan, it has the Great Plain, properly so called, on the south; which is open, and extends beyond the reach of the eye. Josephus gives this lake 580 furlongs in length, from the mouth of the Jordan to the town of Segor, on the opposite end, that is about 22 leagues; and about 150 furlongs or 5 leagues, in its greatest breadth; but our modern accounts commonly give it 24 leagues in length, and 6 or 7 in breadth. On the west side of it is a kind of promontory, where they pretend to show the remains of Lot's metamorphosed wife. Josephus says, it was still standing in his time; but when Prince Radziville inquired after it, they told him there was no such salt pillar or statue to be found in all that part. However, they have found means, about a century after him, to recover, as they pretended to assure Mr Maundrell, a block or stump of it, which may in time grow up, with a little art, into its ancient bulk.

It is to be observed here, that the name of *Dead sea* is not to be found in the sacred writings; but hath been given to this lake because no creature will live in it, on account of its excessive saltness, or rather bituminous quality; for the Hebrews rank sulphur, nitre, and bitumen, under the general name of *salt*. However, some late travellers have found cause to suspect the common report of its breeding no living creature; one of them having observed, on the shore, two or three shells of fish like those of an oyster, and which he supposes to have been thrown up by the waves, at two miles distance from the mouth of the Jordan, which he there takes notice of, lest they should be suspected to have been brought into the lake by that way. And Dr Pococke, though he neither saw fish nor shells, tells us, on the authority of a monk, that some sort of fish had been caught in it; and gives us his opinion, that as so many sorts live in salt water, some kind may be so formed as to live in a bituminous one. Mr Volney, however, affirms that it contains neither animal nor vegetable life. We see no verdure on its banks, nor are fish to be found within its waters. But he adds, that it is not true that its exhalations are pestiferous, so as to destroy birds flying over it. "It is very common (says he) to see swallows skimming its surface, and dipping for the water necessary to build their nests. The real cause which deprives it of vegetables and animals is the extreme saltness of the water, which is infinitely stronger than that of the sea. The soil around it, equally impregnated with this salt, produces no plants; and the air itself, which becomes loaded with it from evaporation, and which receives also the sulphureous and bituminous vapours, cannot be favourable to vegetation: hence the deadly aspect which reigns around this lake. In other respects, the ground about it, however, is not marshy; and its waters are limpid and incorruptible, as must be the case with a dissolution of salt. The origin of this mineral is easy to be discovered; for on the south-west shore are mines of fossil salt, of which I have brought away several specimens. They are situated in the side of the mountains which extend along that border; and, from time immemorial, have supplied the neighbouring Arabs, and even the city of Jerusalem. We find also on this shore fragments of sulphur and bitumen, which the Arabs convert into a trifling article of commerce; as also hot fountains, and deep

VOL. II. Part II.

crevices, which are discovered at a distance by little pyramids built on the brink of them. We likewise find a sort of stone, which, on rubbing, emits a noxious smell, burns like bitumen, receives a polish like white alabaster, and is used for the paving of court-yards. At intervals, we also meet with unshapen blocks, which prejudiced eyes mistake for mutilated statues, and which pass with ignorant and superstitious pilgrims for monuments of the adventure of Lot's wife; though it is nowhere said she was metamorphosed into stone like Niobe, but into salt, which must have melted the ensuing winter."

It is on account of this bitumen that it hath had the name of *Asphaltite lake*, it being reported to have thrown up great quantities of that drug, which was much in use among the Egyptians, and other nations, for embalming of dead bodies. Josephus assures us, that in his days it rose in lumps as big as an ox without its head, and some even larger. But whatever it may have formerly done, we are assured by Mr Maundrell and others, that it is now to be found but in small quantities along the shore, though in much greater near the mountains on both sides the lake. But the contrary is since affirmed by two or more late \* travellers; one \* Pococke's Travels, p. 56. of whom tells us, that it is observed to float on the surface of the water, and to come on the shore after windy weather, where the Arabians gather it, and put it to all the uses that common pitch is used for, even in the composition of some medicines; and another † tells † Sharv's Travels, p. 374. us, he was there informed, that it was raised at certain times from the bottom, in large hemispheres, which, as soon as they touch the surface, and are acted upon by the external air, burst at once, with great noise and smoke, like the *pulsis fulminans* of the chemists, dispersing themselves about in a thousand pieces. From both these judicious authors we may conclude the reason of Mr Maundrell's mistake, both as to the lake's throwing it up only on certain seasons (that reverend gentleman might chance to be there at the wrong time); and likewise as to his not observing it about the shores, seeing the Arabs are there ready to gather it as soon as thrown up: all of them describe it as resembling our black pitch, so as not to be distinguished from it but by its sulphureous smoke and stench when set on fire; and it hath been commonly thought to be the same with that which our druggists sell under the name of *bitumen Judaicum*, or *Jewish pitch*, though we have reason to think that this last is factitious, and that there is now none of the right asphaltum brought from Judea.

It hath, moreover, been confounded with a sort of blackish combustible stone thrown on the shore, and called by some *Moses's stone*, which being held in the flame of a candle, will soon burn, and cast a smoke and intolerable stench; but with this extraordinary property, that though it loses much of its weight and colour, it becoming in a manner white, yet it diminishes nothing of its bulk. But these, Dr Pococke tells us, are found about two or three leagues from the shore. He concludes, however, from it, that a *stratum* of that stone under the lake is probably one part of the matter that feeds the subterraneous fire, and causes the bitumen to boil up out of it.

ASPHALTUM, BITUMEN JUDAICUM, or JEW'S PITCH, is a light solid bitumen, of a dusky colour on the outside, and a deep shining black within; of very little



Asphodelus  
||  
Aspicueta.

little taste; and having scarcely any smell, unless heated, when it emits a strong pitchy one. It is found in a soft or liquid state on the surface of the Dead sea, and by age grows dry and hard. The same kind of bitumen is met with likewise in the earth, in other places of the world, in China, America, and in some places of Europe, as the Carpathian hills, France, Neufchatel, &c. There are several kinds of Jews pitch in the shops: but none of them are the genuine sort, and have little other title to their name than their being artificially compounded by Jews; and as they are a medley of we know not what ingredients, their medicinal use begins to be deservedly laid aside, notwithstanding the discutient, resolvent, pectoral, and other virtues attributed to this bitumen by the ancients. The true asphaltum was formerly used in embalming the bodies of the dead. The thick and solid asphalta are at present employed in Egypt, Arabia, and Persia, as pitch for ships; as the fluid ones, for burning in lamps, and for varnishes. Some writers relate, that the wall of Babylon, and the temple of Jerusalem, were cemented with bitumen instead of mortar. This much is certain, that a true natural bitumen, that for instance which is found in the district of Neufchatel, proves an excellent cement for walls, pavements, and other purposes, uncommonly firm, very durable in the air, and not penetrable by water. The watch and clock makers use a composition of asphaltum, fine lamp black, and oil of spike or turpentine, for drawing the black figures on dial plates: this composition is prepared chiefly by certain persons at Augsberg and Nuremberg. See the preceding article.

ASPHODELUS ASPHODEL, or KING'S SPEAR: See BOTANY Index.

ASPHURELATA, in *Natural History*, are semi-metallic fossils, fusible by fire, and not malleable in their purest state, being in their native state intimately mixed with sulphur and other adventitious matter, and reduced to what are called ores.

Of this series of fossils there are only five bodies, each of which makes a distinct genus; viz. antimony, bismuth, cobalt, zinc, and quicksilver.

ASPICUETA, MARTIN DE, commonly called the Doctor of Navarre, or *Doctor Navarrus*, was descended of a noble family, and born the 13th of December 1491, at Varasayn, a small city of Navarre, not far from Pampeluna. He entered very young into the monastery of regular canons at Roncevaux, where he took the habit, which he continued to wear after he left the convent. He studied classical learning, natural and moral philosophy, and divinity, at Alcala, in New Castile, adopting chiefly the system of Petrus Lombardus, commonly called the *Master of the Sentences*. He applied to the study of the law at Ferrara, and taught it with applause at Toulouse and Cahors. After being first professor of canon law at Salamanca for 14 years, he quitted that place to be professor of law at Coimbra, with a larger salary. The duties of this office he discharged for the space of 20 years, and then resigned it to retire into his own country, where he took care of his nieces, the daughters of his deceased brothers. Having made a journey to Rome to plead the cause of Bartholomeo de Caranza archbishop of Toledo, who had been accused of heresy before the tribunal of the inquisition in Spain, and whose cause was by the Pope's

order, to be tried in that city, Aspicueta's writings, which were well known, procured him a most honourable reception. Pope Pius V. made him assistant to Cardinal Francis Aciat, his vice penitentiary; and Gregory XIII. never passed by his door without calling for him, and stopped sometimes a whole hour to talk with him in the street. His name became so famous, that even in his lifetime the highest encomium on a learned man was to call him a *Navarrus*. He was consulted as an oracle. By temperance he prolonged his life to a great length. His economy enabled him to give substantial proofs of his charity. Being very old, he used to ride on a mule through the city, and relieved all the poor he met; to which his mule was so well accustomed, that it stopped of its own accord at the sight of every poor man till its master had relieved him. He refused several honourable posts in church and state, that he might have leisure to correct and improve the works he had already written, and compose others. He died at the age of 94, on the 21st of June 1586. He wrote a vast number of treatises, all which are either on morality or common law.

ASPIRATE, in *Grammar*, denotes words marked with the spiritus asper. See ASPER.

ASPIRATION, among *Grammarians*, is used to denote the pronouncing a syllable with some vehemence.

ASPLENIUM, CETERACH. See BOTANY Index. ASS, in *Zoology*, is ranged as a species of equus, or horse. See MAMMALIA Index.

*Coronation of the Ass*, in *Antiquity*, was a part of the ceremony of the feast of Vesta, wherein the bakers put bread crowns on the heads of these quadrupeds; *Ecce coronatis panis dependet asellis* \*. Hence, in an \* *Ovid Fast.* ancient calendar, the ides of June are thus denoted; vi. 311. *Festum est Vestæ. Asinus coronatur!*—This honour, it seems, was done the beast, because, by its braying, it had saved Vesta from being ravished by the Lamp-facan god. Hence the formula, *Vestæ delictum est asinus*.

ASSAI, in *Music*, signifies quick; and, according to others, that the motion of the piece be kept in a middle degree of quickness or slowness. *As, assai allegro, assai presto*. See ALLEGRO and PRESTO.

ASSANCALA, a strong town in Armenia, near the river Arras, in the road between Erzerum and Erivan, and noted for its hot baths. It stands on a high hill; the walls are built in a spiral line all round the rock, and strengthened with square towers. The ditches are about two fathoms over, cut out of hard rock. E. Long. 41. 30. N. Lat. 39. 46.

ASSANCHIE, a town of Asia, in Diarbekir, seated on the river Tigris. E. Long. 42. 30. N. Lat. 37. 20.

ASSANS. See ASSENS.

ASSARIUM, in *Antiquity*, denotes a small copper coin, being a part or diminutive of the *as*. The word *ασσαριον* is used by Suidas indifferently with *ασβολος* and *νομισμα*, to denote a small piece of money; in which he is followed by Cujacius, who defines *ασσαριον* by *Minimus æris nummus*. We find mention of the assarion in the gospel of St Matthew, chap. x. ver. 29.

ASSARON, or OMER, a measure of capacity, in use among the Hebrews, containing five pints. It was the measure of manna which God appointed for every Israelite.

ASSASIN, or ASSASSIN, a person who kills another

Aspirate  
||  
Aslatin.



*Assassins.* ther with the advantage either of an inequality in the weapons, or by means of the situation of the place, or by attacking him at unawares.

The word *assassin* is said by some to have been brought from the Levant, where it took its rise from a certain prince of the family of the *Arfacide*; popularly called *Assassins*, living in a castle between Antioch and Damascus, and bringing up a number of young men, ready to pay a blind obedience to his commands; whom he employed in murdering the princes with whom he was at enmity. But according to Mr Volney, the word *Hassassin* (from the root *has*, "to kill, to assassinate, to listen, to surprise,") in the vulgar Arabic signifies "Robbers of the night," persons who *lie in ambush to kill*; and is very universally understood in this sense at Cairo and in Syria. Hence it was applied to the *Batenians*, who slew by surprise. See the next article.

There was a certain law of nations, an opinion, received in all the republics of Greece and Italy, whereby he that assassinated an usurper of the supreme power was declared a virtuous man. At Rome especially, after the expulsion of the kings, the law was formal and solemn, and instances of it admitted. The commonwealth armed the hand of any citizen, and created him a magistrate for that moment.

*Assassins*, a tribe or clan in Syria, called also *Ismaelians* and *Bataniists* or *Batenians*. These people probably owed their origin to the Karmatians, a famous heretical sect among the Mahometans, who settled in Persia about the year 1090; whence, in process of time, they sent a colony into Syria, where they became possessed of a considerable tract of land among the mountains of Lebanon, extending itself from the neighbourhood of Antioch to Damascus.

The first chief and legislator of this remarkable tribe appears to have been Hassan Sabah, a subtle impostor, who by his artifices made fanatical and implicit slaves of his subjects. Their religion was compounded of that of the Magi, the Jews, the Christians, and the Mahometans; but the capital article of their creed was to believe that the Holy Ghost resided in their chief; that his orders proceeded from God himself, and were real declarations of his divine pleasure. To this monarch the orientals gave the name of *Scheik*; but he is better known in Europe by the name of the *Old Man of the Mountain*. His dignity, instead of being hereditary, was conferred by election; where merit, that is, a superior multiplicity and enormity of crimes, was the most effectual recommendation to a majority of suffrages.

This chief, from his exalted residence on the summit of Mount Lebanon, like a vindictive deity, with the thunderbolt in his hand, sent inevitable death to all quarters of the world; so that from one end of the earth to the other, caliphs, emperors, sultans, kings, princes, Christians, Mahometans, and Jews, every nation and people, execrated and dreaded his sanguinary power, from the strokes of which there was no security. At the least suggestion or whisper that he had threatened the death of any potentate, all immediately doubled their guards, and took every other precaution in their power. It is known that Philip Augustus king of France, on a premature advice that the Scheik intended to have him assassinated, instituted a new body-guard

of men distinguished for their activity and courage, called *sergens d'armes*, with brass clubs, bows and arrows: and he himself never appeared without a club, fortified either with iron or gold. Most sovereigns paid secretly a pension to the Scheik, however scandalous and derogatory it might be to the lustre of majesty, for the safety of their persons. The Knights Templars alone dared to defy his secret machinations and open force. Indeed they were a permanent dispersed body, not to be cut off by massacres or assassinations.

This barbarous prince was furnished with resources unknown to all other monarchs, even to the most absolute despotic tyrant. His subjects would prostrate themselves at the foot of his throne, requesting to die by his hand or order, as a favour by which they were sure of passing into paradise. On them if danger made any impression, it was an emulation to press forward; and if taken in any enterprise, they went to the place of execution with a magnanimity unknown to others. Henry count of Champagne, who married Isabella daughter of Amaury king of Jerusalem, passing over part of the territory of the Assassins in his way to Syria, and talking highly of his power, their chief came to meet him. "Are your subjects (said the old man of the mountain) as ready in their submission as mine?" and without staying for an answer, made a sign with his hand, when ten young men in white, who were standing on an adjacent tower, instantly threw themselves down. On another occasion, Sultan Malek-Shah summoning the Scheik to submit himself to his government, and threatening him with the power of his arms, should he hesitate to comply; the latter, very composedly turning himself towards his guards, said to one of them, "Draw your dagger, and plunge it into your breast;" and to another, "Throw yourself headlong from yonder rock." His orders were no sooner uttered than they were joyfully obeyed: and all the answer he deigned to give the sultan's envoy was, "Away to thy master, and let him know I have many thousand subjects of the same disposition." Men so ready to destroy themselves were equally alert and resolute in being the ministers of death to others. At the command of their sovereign, they made no difficulty of stabbing any prince, even on his throne; and being well versed in the different dialects, they conformed to the dress and even the external religion of the country, that they might with less difficulty strike the fatal blow required by their chief. With the Saracens they were Mahometans; with the Franks, Christians: in one place they joined with the Mamelukes; in another, with the ecclesiastics or religious; and under this disguise seized the first opportunity of executing their sanguinary commission. Of this we meet with an instance in the history of Saladin, while he was besieging Manbedge, the celebrated Hieropolis of antiquity. Being one day, with a few attendants, and they at some distance, reconnoitring the place for the better disposition of the attack, a man rushed on him with a dagger in his hand, and wounded him on the head; but the sultan, as he was endeavouring to repeat his stroke, wrested the dagger from him, and, after receiving several wounds, laid him dead at his feet. Before the sultan had well recovered himself, a second encountered him to finish the treachery of the former;



Affassins  
||  
Assay.

but he met with the same fate: he was succeeded with equal fury by a third, who also fell by the hand of that magnanimous prince whom he was sent to assassinate. And it was observed, that these wretches dealt about their fruitless blows as they lay in the agonies of death. With such rapidity was this transacted, that it was over before Saladin's guards could come to his assistance. He retired to his tent, and in great perturbation throwing himself on his sofa, ordered his servants to take a strict view of his household, and to cashier all suspected persons; at the same time asking with great earnestness, "Of whom have I deserved such treacherous usage?" But it afterwards appeared, that these villains had been sent by the old man of the mountain; of whom the vizir Kamshlegin had purchased the murder of Saladin, to free himself from so great a warrior, whom he could not meet in the field. To animate them in their frantic obedience, the Scheik, before their departure on such attempts, used to give them a small foretaste of some of the delights which he assured them would be their recompense in paradise. Delicious soporific drinks were given them; and while they lay asleep, they were carried into beautiful gardens, where every allurement invited their senses to the most exquisite gratifications. From these seats of voluptuousness, inflamed with liquor and enthusiastic views of perpetual enjoyments, they sallied forth to perform assassinations of the blackest dye.

This people once had, or at least they feigned to have, an intention of embracing the Christian religion. They reigned a long time in Persia and on Mount Lebanon. Hulaku, a khan of the Mogul Tartars, in the year 655 of the Hegira, or 1254 of the Christian era, entered their country and dispossessed them of several places; but it was not till the year 1272 that they were totally conquered. This achievement was owing to the conduct and intrepidity of the Egyptian forces sent against them by the sultan Bibaris. It has, however, been thought, that the Druses, who still reside among the eminences of Mount Lebanon, and whose religion and customs are so little known, are a remnant of those barbarians.

ASSAULT, in *Law*, is an attempt to offer to beat another, without touching him: as if one lifts up his cane or his fist in a threatening manner at another; or strikes at him, but misses him: this is an assault, *in-fultus*, which Finch describes to be "an unlawful setting upon one's person." This also is an inchoate violence, amounting considerably higher than bare threats; and therefore, though no actual suffering is proved, yet the party injured may have redress by action of *trespass vi et armis*, wherein he shall recover damages as a compensation for the injury.

ASSAULT, in the *Military Art*, a furious effort made to carry a fortified post, camp, or fortress, wherein the assailants do not screen themselves by any works: while the assault continues, the batteries cease, for fear of killing their own men. The *enfants perdus* march first to the assault. See *ENFANS PERDUS*.

ASSAY, ESSAY, or SAY, in *Metallurgy*, the proof or trial of the goodness, purity, value, &c. of metals and metalline substances. See *ESSAY*.

In ancient statutes this is called *touch*; and those who had the care of it, *keepers of the touch*.—Under Henry VI. divers cities were appointed to have touch

for wrought silver-plate, 2 Hen. VI. c. 14.—By this, one might imagine they had no better method of assaying than the simple one by the touch-stone; but the case is far otherwise. In the time of King Henry II. the bishop of Salisbury; then treasurer, considering that though the money paid into the king's exchequer for his crown-rents did not answer *numero et pondere*, it might nevertheless be mixed with copper or brass: wherefore a constitution was made, called the *trial by combustion*; which differs little or nothing from the present method of assaying silver. See a description of it in the Black Book in the Exchequer, written by Gervase of Tilbury, c. xxi. This trial is also there called *essaium*, and the officer who made it is named *fyfor*. The method still in use of assaying gold and silver was first established by an act of the English parliament 1354.

ASSAYING, *ars docimaistica*, in its extent, comprehends particular manners of examining every ore, or mixed metal, according to its nature, with the best-adapted fluxes; so as to discover, not only what metals, and what proportions of metal, are contained in ores; but likewise how much sulphur, vitriol, alum, arsenic, smelt, &c. may be obtained from every one respectively. See *MINERALOGY INDEX*.

Assaying is more particularly used by moneyers and goldsmiths, for the making a proof or trial by the cuppel, or test, of the fineness or purity of the gold and silver to be used in the coining of money, and manufacture of plate, &c. or that have been already used therein.

There are two kinds of assaying; the one before metals are melted, in order to bring them to their proper fineness; the other after they are struck, to see that the species be standard. For the first assay, the assayers use to take 14 or 15 grains of gold, and half a drachm of silver, if it be for money; and 18 grains of the one, and a drachm of the other, if for other occasions. As to the second assay, it is made of one of the pieces of money already coined, which they cut in four parts. The quantity of gold for an assay among us is six grains; in France nearly the same; and in Germany, about three times as much.

The proper spelling of that word, however, is *ESSAY*; under which article, therefore, the reader will find the subject more particularly treated.

*ASSAY-BALANCE*, or *ESSAY-BALANCE*. The flat pieces of glass often placed under the scales of an assay-balance, seem, by their power of electricity, capable of attracting, and thereby making the lighter scale preponderate, where the whole matter weighed is so very small. See *ESSAY-BALANCE*.

The electricity of a flat surface of about three inches square has been known to hold down one scale, when there were about 200 grains weight in the other. See *BALANCE*.

*ASSAY-MASTER*, or *ESSAY-MASTER*, an officer under certain corporations, intrusted with the care of making true touch, or assay, of the gold and silver brought to him; and giving a just report of the goodness or badness thereof. Such is the assay-master of the mint in the Tower, called also *assayer of the king*.

The assay-master of the goldsmith's company is a sort of assistant-warden, called also a *touch-warden*, appointed to survey, assay, and mark all the silver work, &c. committed

Assaying  
||  
Assay-master.



Asselyn  
||  
Assembly.

committed to him. There are also assay-masters appointed by statute at York, Exeter, Bristol, Chester, Norwich, Newcastle, and Birmingham, for assaying wrought plate. The assay-master is to retain eight grains of every pound troy of silver brought to him; four whereof are to be put in the pix, or box of deal, to be re-assayed the next year, and the other four to be allowed him for his waste and spillings.

*Note*, The number of pennyweights set down in the assay-master's report, is to be accounted as per pound, or so much in every pound of 12 ounces troy. For every 20 pennyweight, or ounce troy, the silver is found by the assay to be worse than standard, or sterling, sixpence is to be deducted; because every ounce will cost so much to reduce it to standard goodness, or to change it for sterling.

In gold, for every carat it is set down to be worse than standard, you must account that in the ounce troy it is worse by so many times 3s. 8d.; and for every grain it is set down worse, you must account it worse by so many times 11d. in the ounce troy; and for every half grain  $5\frac{1}{2}$ d.: for so much it will cost to make it of standard goodness, &c.

ASSELYN, JOHN, a famous Dutch painter, was born in Holland, and became the disciple of Isaiiah Vandervelde the battle-painter. He distinguished himself in history-paintings, battles, landscapes, animals, and particularly horses. He travelled into France and Italy; and was so pleased with the manner of Bambocchio, that he always followed it. He painted many pictures at Lyons, where he married the daughter of a merchant of Antwerp, and returned with her to Holland. Here he first discovered to his countrymen a fresh and clear manner of painting landscapes, like Claude Lorraine; upon which all the painters imitated his style, and reformed the dark brown they had hitherto followed. Asselyn's pictures were so much admired at Amsterdam, that they sold there at a high price. He died in that city in 1660. Twenty-four pieces of landscapes and ruins, which he painted in Italy, have been engraved by Perelle.

ASSEMBLAGE, the uniting or joining of things together; or the things themselves so united or joined. It is also used, in a more general sense, for a collection of various things so disposed and diversified, that the whole produces some agreeable effect.

ASSEMBLY, the meeting of several persons, in the same place, upon the same design.

ASSEMBLY, in the *Beau-Monde*, an appointed meeting of fashionable persons of both sexes, for the sake of play, dancing, gallantry, conversation, &c.

ASSEMBLY, in the *Military Art*, the second beating of a drum before a march; at which the soldiers strike their tents, roll them up, and stand to arms.

ASSEMBLIES of the clergy are called *convocations*, *synods*, *councils*. The annual meeting of the church of Scotland is called a *General Assembly*: In this assembly his Majesty is represented by his Commissioner, who dissolves one meeting, and calls another, in the name of the *King*, while the Moderator does the same in the name of the *Lord Jesus Christ*.

ASSEMBLIES of the Roman people were called *comitia*.

Under the Gothic governments, the supreme legislative power was lodged in an assembly of the states of

Assens  
||  
Assets.

the kingdom, held annually for the like purposes as our parliament. Some remains of this usage subsisted in the annual assemblies of the states of some provinces of France previous to the late revolution; but these were no more than shadows of the ancient assemblies. It is only in Great Britain, and perhaps in Sweden, that such assemblies retain their ancient powers and privileges.

ASSENS, a sea-port town of Denmark, situated upon the Little Belt, a strait of the Baltic, which separates the isle of Funen from the continent. It is the common passage from the duchy of Sleswick to Copenhagen. E. Long. 10. 30. N. Lat. 55. 15.

ASSENT, in a general sense, implies an agreement to something proposed or affirmed by another.

*Royal Assent*, the approbation given by the king to a bill in parliament, after which it becomes a law.

ASSER, JOHN, or ASSERIUS MENEVENSIS, that is, *Asser of St David's*, bishop of Shireburn in the reign of Alfred the Great. He was born in Pembroke-shire in South Wales; and educated in the monastery of St David's by the archbishop Asserius, who, according to Leland, was his kinsman. In this monastery he became a monk, and by his assiduous application soon acquired universal fame as a person of profound learning and great abilities. Alfred, the munificent patron of genius, about the year 880, sent for him to court. The king was then at Dean in Wiltshire. He was so charmed with Asser, that he made him his preceptor and companion. As a reward for his services, he appointed him abbot of two or three different monasteries: and at last promoted him to the episcopal see of Shireburn, where he died and was buried in the year 910. He was, says Pits, a man of happy genius, wonderful modesty, extensive learning, and great integrity of life. He is said to have been principally instrumental in persuading the king to restore the university of Oxford to its pristine dignity and lustre. He wrote, *De vita et rebus gestis Alfredi*, &c. Lon. 1574, published by Archbishop Parker, in the old Saxon character, at the end of *Walsinghami hist.*—Francf. 1602, fol. Oxf. 1722, 8vo. Many other works are ascribed to this author by Gale, Bale, and Pits; but all doubtful.

ASSERIA. See ASSISA.

ASSERTION, in the language of the schools, a proposition advanced by the assertor, who avows the truth of it, and is ready to defend it.

ASSESSOR, an inferior officer of justice, appointed chiefly to assist the ordinary judge with his opinion and advice.

ASSESSOR is also one who assesses, or settles taxes and other public dues.

ASSETS, in *Law*, signifies goods enough to discharge that burden which is cast upon the executor or heir, in satisfying the debts and legacies of the testator or ancestor. Assets are real or personal. Where a man hath lauds in fee simple, and dies seised thereof, the lands which come to his heir are assets real; and where he dies possessed of any personal estate, the goods which come to the executors are assets personal. Assets are also divided into *assets by descent*, and *assets in hand*. Assets by descent is where a person is bound in an obligation, and dies seised of lands which descend to the heir, the land shall be assets, and the

heir



Affevera-  
tion  
||  
Assiento.

heir shall be charged as far as the lands to him descended will extend. *Assets in hand* is when a man indebted makes executors, and leaves them sufficient to pay his debts and legacies; or where some commodity or profit ariseth to them in right of the testator: this is called *assets in their hands*.

ASSEVERATION, a positive and vehement affirmation of something.

ASSHETON, WILLIAM, doctor of divinity, and rector of Beckenham, in Kent, was born in the year 1641, and was educated at Brazen-nose college, Oxford. After entering into orders, he became chaplain to the duke of Ormond, and was admitted doctor of divinity in 1673. Soon after, he was nominated to a prebend in the church of York, presented to the living of St Antholin, London, and to the rectory of Beckenham in Kent. He was the first projector of the scheme for providing for clergymen's widows, and others, by a jointure payable out of the mercers company. He wrote several pieces against the Papists and Dissenters, and some devotional tracts. He died at Beckenham in September 1711, in the 70th year of his age.

ASSIDEANS, or CHASIDEANS, (from the Hebrew *chafidim*, "merciful, pious"); those Jews who resorted to Mattathias to fight for the law of God and the liberties of their country. They were men of great valour and zeal, having voluntarily devoted themselves to a more strict observation of the law than other men. For after the return of the Jews from the Babylonish captivity, there were two sorts of men in their church; those who contented themselves with that obedience only which was prescribed by the law of Moses, and who were called *Zadikim*, i. e. the *righteous*; and those who, over and above the law, superadded the constitutions and traditions of the elders, and other rigorous observances: these latter were called *Chafidim*, i. e. the *pious*. From the former sprung the Samaritans, Sadducees, and Caraites; from the latter, the Pharisees and the Essenes.

ASSIDENT SIGNS, in *Medicine*, are symptoms which usually attend a disease, but not always; hence differing from *pathognomic* signs, which are inseparable from the disease: *e. gr.* In the pleurisy, a pungent pain in the side; in an acute fever, difficulty of breathing, &c. collectively taken, are pathognomic signs; but that the pain extends to the hypochondrium or clavicle, or that the patient lies with more ease on one side than on the other, are *assident* signs.

ASSIDUUS, or ANSIDUUS, among the Romans, denoted a rich or wealthy person. The word in this sense is derived from *as assis*, q. d. a monied man. Hence we meet with *assiduus* sureties, *assidui fidejussores*, answering to what the French now call city sureties or securities, *cautions bourgeois*.

When Servius Tullius divided the Roman people into five classes, according as they were assessed or taxed to the public, the richer sort who contributed asses were denominated *assidui*; and as these were the chief people of business who attended all the public concerns, those who were diligent in attendances came to be denominated *assidui*.

ASSIENTO, a Spanish word signifying a *farm*, in *Commerce*, is used for a bargain between the king of Spain and other powers, for importing negroes into the

Spanish dominions in America, and particularly to Buenos Ayres. The first assiento was made with the French Guinea company; and, by the treaty of Utrecht, transferred to the English, who were to furnish 4800 negroes annually.

ASSIGN, in *Common Law*, a person to whom a thing is assigned or made over.

ASSIGNATION, an appointment to meet. The word is generally understood of love-meetings.

ASSIGNEE, in *Law*, a person appointed by another to do an act, transact some business, or enjoy a particular commodity.

ASSIGNING, in a general sense, implies the making over the right of one person to another. In a particular sense, it signifies the pointing out of something; as, an error, false judgment, &c.

ASSIGNMENT, the transferring the interest one has in a lease, or other thing, to another person.

ASSIMILATION, in *Physics*, is that motion by which bodies convert other bodies related to them, or at least such as are prepared to be converted, into their own substance and nature. Thus, flame multiplies itself upon oily bodies, and generates new flame; air upon water, and produces new air; and all the parts, as well similar as organical, in vegetables and animals, first attract with some election or choice, nearly the same common or not very different juices for aliment, and afterwards assimilate or convert them to their own nature.

ASSISE, in *Old English Law-Books*, is defined to be an assembly of knights, and other substantial men, together with a justice, in a certain place, and at a certain time: but the word, in its present acceptation, implies a court, place, or time, when and where the writs and processes, whether civil or criminal, are decided by judge and jury.

All the counties of England are divided into six circuits; and two judges are assigned by the king's commission, who hold their assises twice a-year in every county (except London and Middlesex, where courts of *nisi prius* are holden in and after every term, before the chief or other judge of the several superior courts; and except the four northern counties, where the assises are taken only once a-year) to try by a jury of the respective counties the truth of such matters of fact as are then under dispute in the courts of Westminster hall. These judges of assise came into use in the room of the ancient justices in eyre, *justiciarii itinere*; who were regularly established, if not first appointed, by the parliament of Northampton, A. D. 1176, 22 Hen. II. with a delegated power from the king's great court or *aula regia*, being looked upon as members thereof: and they afterwards made their circuit round the kingdom once in seven years for the purpose of trying causes. They were afterwards directed by *magna charta*, c. 12. to be sent into every county once a-year to take or try certain actions then called *recognitions* or *assises*; the most difficult of which they are directed to adjourn into the court of common pleas to be there determined. The itinerant justices were sometimes mere justices of assise, or of dower, or of gaol-delivery, and the like; and they had sometimes a more general commission, to determine all manner of causes, *justiciarii ad omnia placita*: but the present justices of assise and *nisi prius* are more immediately derived

Assign  
||  
Assise.



*Affise.* derived from the statute Westm. 2. 13 Edw. I. c. 30. explained by several other acts, particularly the statute 14 Edw. III. c. 16. and must be two of the king's justices of the one bench or the other, or the chief baron of the exchequer, or the king's serjeants sworn. They usually make their circuits in the respective vacations after Hilary and Trinity terms; assises being allowed to be taken in the holy time of Lent by consent of the bishops at the king's request, as expressed in statute Westm. 1. 3 Edw. I. c. 51. And it was also usual, during the times of Popery, for the prelates to grant annual licenses to the justices of assise to administer oaths in holy times: for oaths being of a sacred nature, the logic of those deluded ages concluded that they must be of ecclesiastical cognizance. The prudent jealousy of our ancestors ordained that no man of law should be judge of assise in his own county: and a similar prohibition is found in the civil law, which has carried this principle so far, that it is equivalent to the crime of sacrilege, for a man to be governor of the province in which he was born, or has any civil connexion.

The judges upon their circuits now sit by virtue of five several authorities. 1. The commission of the *peace* in every county of the circuits; and all justices of the peace of the county are bound to be present at the assises; and sheriffs are also to give their attendance on the judges, or they shall be fined. 2. A commission of *oyer and terminer*, directed to them and many other gentlemen of the county, by which they are empowered to try treasons, felonies, &c. and this is the largest commission they have. 3. A commission of *general goal-delivery*, directed to the judges and the clerk of assise associate, which gives them power to try every prisoner in the gaol committed for any offence whatsoever, but none but prisoners in the gaol; so that one way or other they rid the gaol of all the prisoners in it. 4. A commission of *assise*, directed to the judges and clerk of assise, to take assises; that is, to take the verdict of a peculiar species of jury called an *assise*, and summoned for the trial of *landed* disputes. The other

authority is, 5. That of *nisi prius*, which is a consequence of the commission of *assise*, being annexed to the office of those justices by the statute of Westm. 2. 13 Edw. I. c. 30. And it empowers them to try all questions of fact issuing out of the courts of Westminster, that are then ripe for trial by jury. The original of the name is this; all causes commenced in the courts of Westminster-hall are by the course of the courts appointed to be there tried, on a day fixed in some Easter or Michaelmas term, by a jury returned from the county wherein the cause of action arises; but with this proviso, *nisi prius justiciarii ad assisas capiendas venerint; unless before* the day prefixed the judges of assise come into the county in question. This they are sure to do in the vacations preceding each Easter and Michaelmas term, and there dispose of the cause; which saves much expence and trouble, both to the parties, the jury, and the witnesses.

The word *assise* (from the French *assis*, seated, settled, or established, and formed of the Latin verb *assideo*, "I sit by") is used in several different senses. It is sometimes taken for the sittings of a court; sometimes for its regulations or ordinances, especially those that fix the standard of weights and measures; and sometimes it signifies a jury, either because juries consisted of a fixed determinate number, or because they continued sitting till they pronounced their verdict. In Scots law, an assise or jury consists of 15 sworn men (*jurators*), picked out by the court from a greater number, not exceeding 45, who have been summoned for that purpose by the sheriff, and given in list to the defender, at serving him with a copy of his libel.

ASSISIO, an episcopal town of Italy, in the duchy of Spoleto, built on the side of a very high mountain. The cathedral of St Francis is very magnificent, and composed of three churches, one above another. E. Long. 13. 35. N. Lat. 43. 4.

ASSITHMENT, a wiregeld, or compensation, by a pecuniary mulct; from the preposition *ad*, and the Sax. *fithe*, vice; *quod vice supplicii ad expiandum delictum solvitur*.

*Affise.*



DIRECTIONS FOR PLACING THE PLATES OF VOL. II.

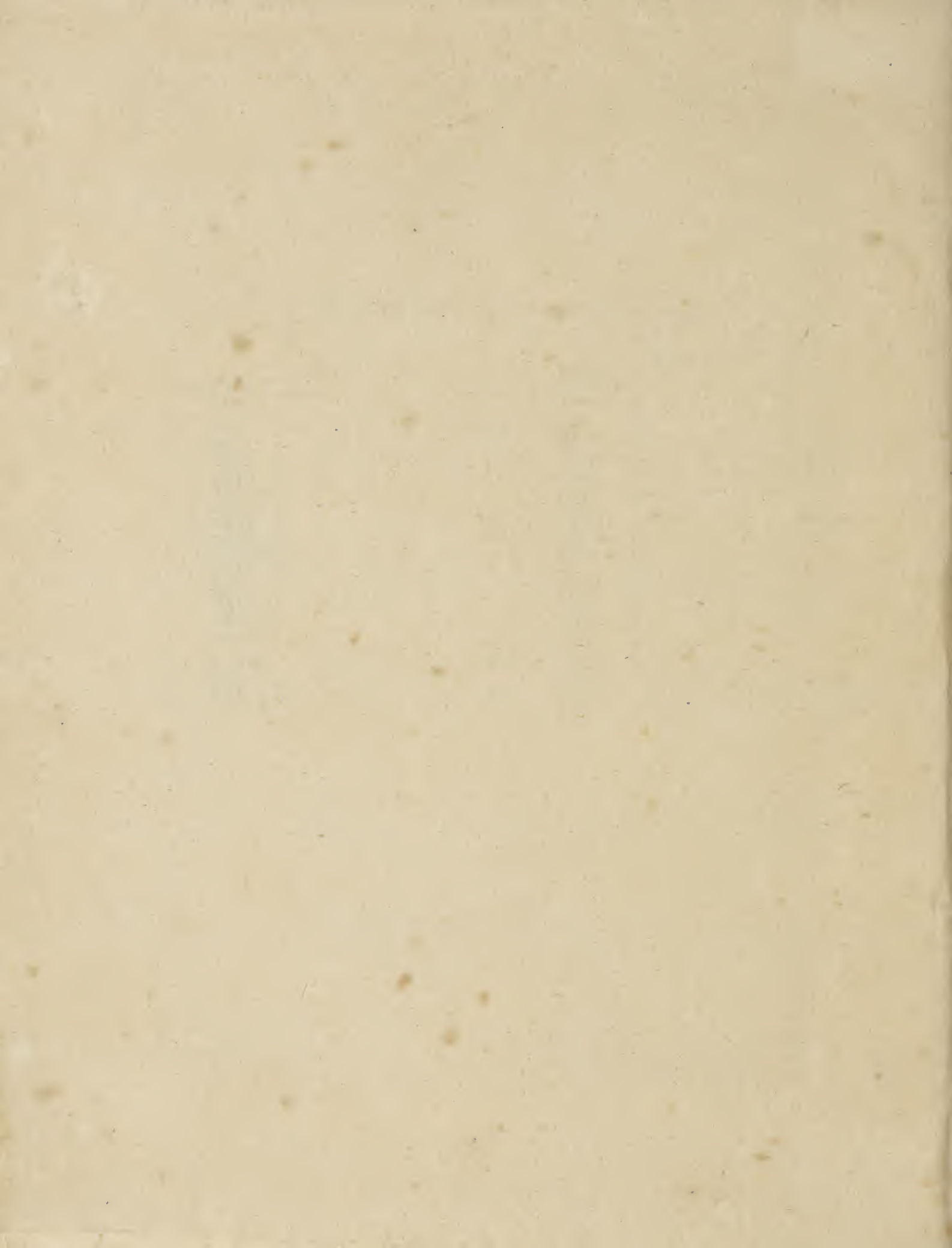
PART I.			
Plate XVIII. }	to face	-	Page 138
XIX. }		-	
XX. }		-	154
XXI. }			
XXII. }			
XXIII. }			
XXIV. }			
XXV. }			
XXVI. }		-	
XXVII. }		-	278
XXVIII. }			
XXIX. }			
XXX. }			
XXXI. }			
XXXII. }			
XXXIII. }		-	320
XXXIV. }		-	368
XXXV. }			
XXXVI. }		-	380

PART II.			
XXXVII. }			
XXXVIII. }			
XXXIX. }			
XL. }			
XLI. }			
XLII. }			
XLIII. }			
XLIV. }			
XLV. }			
XLVI. }			
XLVII. }	to face	-	Page 592
XLVIII. }			
XLIX. }			
L. }			
LI. }			
LII. }			
LIII. }			
LIV. }			
LV. }			
LVI. }			
LVII. }		-	660
LVIII. }		-	788











x



